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United States Life Tables, 2003

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Abstract

This report presents period life tables for the United States based on age-specific death rates in 2003. Data used to prepare these life tables are 2003 final mortality statistics; July 1, 2003, population estimates based on the 2000 decennial census; and data from the Medicare program. Presented are complete life tables by age, race, and sex. In 2003, the overall expectation of life at birth was 77.5 years, representing an increase of 0.2 years from life expectancy in 2002. Between 2002 and 2003, life expectancy increased for males and females and for both the white and black populations. Life expectancy increased by 0.3 years (from 77.7 to 78.0) for the white population and by 0.4 years (from 72.3 to 72.7) for the black population. Both males and females in each race group experienced increases in life expectancy between 2002 and 2003. The greatest increase was experienced by black females with an increase of 0.5 years (from 75.6 to 76.1). Life expectancy increased by 0.2 years for black males (from 68.8 to 69.0), white males (from 75.1 to 75.3), and for white females (from 80.3 to 80.5).

Introduction

There are two types of life tables—the cohort (or generation) life table and the period (or current) life table. The cohort life table presents the mortality experience of a particular birth cohort, all persons born in the year 1900, for example, from the moment of birth through consecutive ages in successive calendar years. Based on age-specific death rates observed through consecutive calendar years, the cohort life table reflects the mortality experience of an actual cohort from birth until no lives remain in the group. To prepare just a single complete cohort life table requires data over many years. It is usually not feasible to construct cohort life tables entirely on the basis of observed data for real cohorts due to data unavailability or incompleteness (1). For example, a life table representation of the

mortality experience of a cohort of persons born in 1970 would require the use of data projection techniques to estimate deaths into the future (2,3).

Unlike the cohort life table, the period life table does not represent the mortality experience of an actual birth cohort. Rather, the period life table presents what would happen to a hypothetical (or synthetic) cohort if it experienced throughout its entire life the mortality conditions of a particular period in time. Thus, for example, a period life table for 2003 assumes a hypothetical cohort subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2003. The period life table may thus be characterized as rendering a "snapshot" of current mortality experience, and shows the long-range implications of a set of age-specific death rates that prevailed in a given year. In this report, the term "life table" refers only to the period life table and not to the cohort life table.

Data and Methods

The data used to prepare the U.S. life tables for 2003 are final numbers of deaths for the year 2003, postcensal population estimates for the year 2003, and, data from the Medicare program of the Centers for Medicare and Medicaid Services.

The populations used to estimate the life tables shown in this report were produced under a collaborative agreement with the U.S. Census Bureau and are consistent with the postcensal estimates of the 2000 census. Reflecting the new guidelines issued in 1997 by the Office of Management and Budget (OMB), the 2000 census included

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an option for individuals to report more than one race as appropriate for themselves and household members (4). The 1997 OMB guidelines also provided for the reporting of Asian persons separately from Native Hawaiians or other Pacific Islanders. Under the prior OMB standards (issued in 1977), data for Asian or Pacific Islander persons were collected as a single group (5). Death certificates currently collect only one race for the decedent in the same categories as specified in the 1977 OMB guidelines (death certificate data do not report Asians separately from Native Hawaiians or other Pacific Islanders). Death certificate data by race (the numerators for death rates) are thus currently incompatible with the population data collected in the 2000 census (the denominators for the rates). To produce death rates for 2000–2003, it was necessary to “bridge” the reported population data for multiple-race persons back to single-race categories. In addition, the 2000 census counts were modified to be consistent with the 1977 OMB race categories, that is, to report the data for Asian persons and Native Hawaiians or other Pacific Islanders as a combined category, Asian or Pacific Islanders, and to reflect age as of the census reference data (6). The procedures used to produce the “bridged” populations are described in separate publications (7). It is anticipated that “bridged” population data will be used over the next few years for computing population-based rates. Beginning with deaths occurring in 2003, some States implemented multiple-race categories on the death certificate. Multiple-race data for these States are bridged back to single race categories. Once all States are collecting data on race according to the 1997 OMB guidelines, it is expected that use of the bridged populations will be discontinued.

Readers should keep in mind that the population data used to compile death rates by race are based on special estimation procedures. They are not true counts. This is the case even for the 2000 populations that are based on the 2000 census. The estimation procedures used to develop these populations contain some error (7). Over the next several years, additional information will be incorporated in the estimation procedures, possibly resulting in further revisions of the population estimates (see “[Technical Notes](#)”).

Data from the Medicare program are used to calculate probabilities of dying for ages over 85 years (see “[Technical Notes](#)”).

Life tables can be classified in two ways according to the length of the age interval in which data are presented. A complete life table contains data for every single year of age. An abridged life table typically contains data by 5- or 10-year age intervals. A complete life table, of course, can be easily aggregated into 5- or 10-year age groups (see “[Technical Notes](#)” for instructions on how to do this). Other than the decennial life tables, U.S. life tables based on data prior to 1997 are abridged life tables constructed by reference to a standard table (8). The 2003 U.S. life tables are complete life tables calculated using a method implemented with the 1997 life tables and are similar to the U.S. Decennial Life Tables (9,10). See “[Technical Notes](#)” for more information on the method used to construct the life tables in this report.

Expectation of life—The most frequently used life table statistic is life expectancy (e_x), which is the average number of years of life remaining for persons who have attained a given age (x). Life expectancy and other life table values for each age in 2003 are shown for the total population and by race and sex in [Tables 1–9](#). Life expectancy is summarized by age, race, and sex in [Table A](#).

Life expectancy at birth (e_0) for 2003 for the total population was 77.5 years. This represents the average number of years that the members of the hypothetical life table cohort may expect to live at the time of birth ([Table A](#)).

Survivors to specified ages—Another way of assessing the longevity of the synthetic life table cohort is by determining the proportion who survive to specified ages. The I_x column of the life table provides the data for computing the proportion. [Table B](#) summarizes the number of survivors by age, race, and sex. To illustrate, 52,741 persons out of the original 2003 synthetic life table cohort of 100,000 (or 52.7 percent) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2003 age-specific mortality, is 53 percent. Probabilities of survival can be calculated at any age by simply dividing the number of survivors at the terminal age by the number at the beginning age. For example, to calculate the probability of surviving from age 20 to age 85, one would divide the number of survivors at age 85 (36,988) by the number of survivors at age 20 (98,693), which results in a 37.5 percent probability of survival.

Explanation of the columns of the life table

Column 1—Age (x to $x+1$)—This column shows the age interval between the two exact ages indicated. For instance, “20–21” means the 1-year interval between the 20th and 21st birthdays.

Column 2—Probability of dying (q_x)—This column shows the probability of dying between ages x to $x+1$. For example, for males in the age interval 20–21 years, the probability of dying is 0.001395 ([Table 2](#)). The “probability of dying” column forms the basis of the life table; all subsequent columns are derived from it.

Column 3—Number surviving (I_x)—This column shows the number of persons from the original synthetic cohort of 100,000 live births, who survive to the beginning of each age interval. The I_x values are computed from the q_x values, which are successively applied to the remainder of the original 100,000 persons still alive at the beginning of each age interval. Thus out of 100,000 female babies born alive, 99,392 will complete the first year of life and enter the second; 99,217 will reach age 10; 98,950 will reach age 20; and 44,201 will live to age 85 ([Table 3](#)).

Column 4—Number dying (d_x)—This column shows the number dying in each successive age interval out of the original 100,000 live births. For example, out of 100,000 males born alive, 761 will die in the first year of life; 137 between ages 20 and 21; and 1,150 will die after reaching age 100 ([Table 2](#)). Each figure in column 4 is the difference between two successive figures in column 3.

Column 5—Person-years lived (L_x)—This column shows the number of person-years lived by the synthetic life table cohort within an age interval x to $x+1$. Each figure in column 5 represents the total time (in years) lived between two indicated birthdays by all those reaching the earlier birthday. Thus, the figure 98,382 for males in the age interval 20 to 21 years is the total number of years lived between the 20th and 21st birthdays by the 98,450 (column 3) males who reached their 20th birthday out of 100,000 males born alive ([Table 2](#)).

Column 6—Total number of person-years lived (T_x)—This column shows the total number of person-years that would be lived after the beginning of the age interval x to $x+1$ by the synthetic life table cohort.

Table A. Expectation of life by age, race, and sex: United States, 2003

Age	All races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
0.....	77.5	74.8	80.1	78.0	75.3	80.5	72.7	69.0	76.1
1.....	77.0	74.3	79.6	77.4	74.8	79.9	72.7	69.1	76.0
5.....	73.1	70.4	75.7	73.5	70.9	76.0	68.9	65.3	72.2
10.....	68.2	65.5	70.7	68.5	66.0	71.0	63.9	60.3	67.2
15.....	63.2	60.6	65.8	63.6	61.0	66.1	59.0	55.4	62.3
20.....	58.4	55.8	60.9	58.8	56.3	61.2	54.2	50.7	57.4
25.....	53.7	51.2	56.0	54.1	51.6	56.3	49.6	46.3	52.6
30.....	48.9	46.5	51.2	49.3	46.9	51.5	45.0	41.8	47.8
35.....	44.2	41.9	46.4	44.5	42.2	46.6	40.4	37.3	43.1
40.....	39.5	37.3	41.6	39.8	37.6	41.9	36.0	32.9	38.6
45.....	35.0	32.8	37.0	35.2	33.1	37.2	31.6	28.7	34.1
50.....	30.6	28.5	32.4	30.8	28.8	32.6	27.6	24.8	29.9
55.....	26.3	24.4	28.0	26.5	24.6	28.1	23.8	21.2	25.9
60.....	22.2	20.4	23.8	22.3	20.6	23.8	20.2	17.9	22.1
65.....	18.4	16.8	19.8	18.5	16.9	19.8	17.0	14.9	18.5
70.....	14.9	13.5	16.0	14.9	13.5	16.0	14.0	12.1	15.3
75.....	11.8	10.5	12.6	11.7	10.5	12.6	11.4	9.8	12.4
80.....	9.0	8.0	9.6	9.0	8.0	9.6	9.2	7.9	9.8
85.....	6.8	6.0	7.2	6.7	5.9	7.1	7.4	6.4	7.8
90.....	5.0	4.4	5.2	4.9	4.3	5.1	5.7	5.0	6.0
95.....	3.6	3.2	3.7	3.5	3.1	3.6	4.4	3.8	4.5
100.....	2.6	2.3	2.6	2.5	2.2	2.5	3.4	3.0	3.4

Table B. Number of survivors by age, out of 100,000 born alive, by race and sex: United States, 2003

Age	All races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
0.....	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1.....	99,313	99,239	99,392	99,428	99,363	99,495	98,597	98,443	98,755
5.....	99,189	99,100	99,282	99,315	99,239	99,394	98,414	98,234	98,600
10.....	99,116	99,020	99,217	99,246	99,163	99,334	98,317	98,128	98,512
15.....	99,022	98,906	99,143	99,158	99,057	99,265	98,190	97,973	98,415
20.....	98,693	98,450	98,950	98,838	98,621	99,068	97,795	97,378	98,228
25.....	98,219	97,762	98,704	98,397	97,987	98,837	97,077	96,289	97,882
30.....	97,752	97,112	98,430	97,974	97,400	98,590	96,261	95,094	97,423
35.....	97,210	96,392	98,073	97,478	96,736	98,271	95,332	93,855	96,781
40.....	96,444	95,424	97,512	96,775	95,837	97,773	94,034	92,255	95,759
45.....	95,287	93,984	96,642	95,704	94,486	96,991	92,122	89,944	94,213
50.....	93,585	91,848	95,375	94,136	92,500	95,851	89,236	86,387	91,939
55.....	91,185	88,851	93,569	91,921	89,725	94,206	85,120	81,223	88,775
60.....	87,760	84,710	90,858	88,670	85,795	91,642	79,726	74,571	84,522
65.....	82,668	78,674	86,692	83,755	79,967	87,633	72,488	65,893	78,575
70.....	75,535	70,359	80,693	76,738	71,770	81,764	63,618	55,702	70,898
75.....	65,710	59,223	72,070	66,929	60,628	73,195	52,653	43,607	60,906
80.....	52,741	45,076	60,059	53,816	46,265	61,105	40,054	30,654	48,549
85.....	36,988	29,190	44,201	37,707	29,938	44,940	27,072	18,638	34,671
90.....	21,340	15,073	26,939	21,564	15,293	27,176	16,104	9,855	21,704
95.....	8,977	5,414	12,005	8,864	5,340	11,847	7,687	4,033	10,892
100.....	2,363	1,150	3,306	2,224	1,071	3,110	2,716	1,172	4,000

For example, the figure 5,497,591 is the total number of years lived after attaining age 20 by the 98,450 males reaching that age (Table 2).

Column 7—Expectation of life (e_x)—The expectation of life at any given age is the average number of years remaining to be lived by those surviving to that age on the basis of a given set of age-specific rates of dying. It is derived by dividing the total person-years that would be lived above age x by the number of persons who survived to that age interval ($T_{x+1/x}$). Thus, the average remaining lifetime for males who reach age 20 is 55.8 years (5,497,591 divided by 98,450) (Table 2).

Results

Life expectancy in the United States

Tables 1–9 show complete life tables by race (white and black) and sex for 2003. Tables A and B summarize life expectancy and survival by age, race, and sex. Life expectancy at birth for 2003 represents the average number of years that a group of infants would

live if the infants were to experience throughout life the age-specific death rates prevailing in 2003. In 2003, life expectancy at birth was 77.5 years, increasing by 0.2 years from 77.3 years in 2002. This increase is typical of the average yearly changes that occurred during the last 30 years in the United States. Throughout the past century, the trend in U.S. life expectancy was one of gradual improvement, which has continued into the new century (11).

Life expectancy in 2003 was 74.8 years for males, increasing by 0.3 year from 74.5 years in 2002. Life expectancy for females was 80.1 years, increasing by 0.2 year from 79.9 years in 2002. The increase in life expectancy between 2002 and 2003 for females was primarily the result of decreases in mortality from diseases of heart, malignant neoplasms, and cerebrovascular diseases. The increase in life expectancy for females could have been greater were it not for the offsetting effect of increases in mortality from accidents (unintentional injuries), Alzheimer's disease, and essential (primary) hypertension and hypertensive renal disease. For males, life expectancy increased primarily because of decreases in mortality from diseases of heart, malignant neoplasms, and cerebrovascular diseases. The increase in life expectancy for males could have been greater were it not for the offsetting increases in mortality from Alzheimer's disease, essential (primary) hypertension and hypertensive renal disease, and nephritis, nephrotic syndrome and nephrosis (12).

The difference in life expectancy between the sexes was 5.3 years in 2003, down by 0.1 year from 2002. From 1900 to 1975, the difference in life expectancy between the sexes increased from 2.0 years to 7.8 years. The increasing gap during these years is attributed to increases in male mortality due to ischemic heart disease and lung cancer, both of which increased largely as the result of men's early and widespread adoption of cigarette smoking (11,13). Since 1979, the difference in life

expectancy between the sexes has narrowed from 7.8 years to 5.3 years, reflecting proportionately greater increases in lung cancer mortality for women than for men and proportionately larger decreases in heart disease mortality among men (11,13).

Between 2002 and 2003, life expectancy for the black population rose 0.4 years to 72.7 years. For the white population, life expectancy rose by 0.3 years to 78.0 years. The difference in life expectancy between the white and black populations was 5.3 years in 2003, a historically record low level. The white-black difference in life expectancy narrowed from 14.6 years in 1900 to 5.7 years in 1982, but increased to 7.1 years in 1993 before beginning to decline again in 1994 (7.0 years). The increase in the gap from 1983 to 1993 was largely the result of increases in mortality among the black male population due to HIV infection and homicide (11,14).

Among the four race-sex groups (Figure 1), white females continued to have the highest life expectancy at birth (80.5 years), followed by black females (76.1 years), white males (75.3 years), and black males (69.0 years). Between 2002 and 2003, life expectancy increased 0.2 years for black males (from 68.8 in 2002 to 69.0 in 2003). Black males experienced an unprecedented decline in life expectancy every year for 1984–89 (13), but annual increases in 1990–92 and 1994–2003. From 2002 to 2003, life expectancy for black females increased from 75.6 years to 76.1 years, an increase of 0.5 years. Life expectancy for white males rose 0.2 years, from 75.1 years in 2002 to 75.3 years in 2003. White female life expectancy increased during the same period by 0.2 years from 80.3 to 80.5 years. Overall, gains in life expectancy between 1980 and 2003 were 5.2 years for black males, 4.6 years for white males, 3.6 years for black females, and 2.4 years for white females (Table 12).

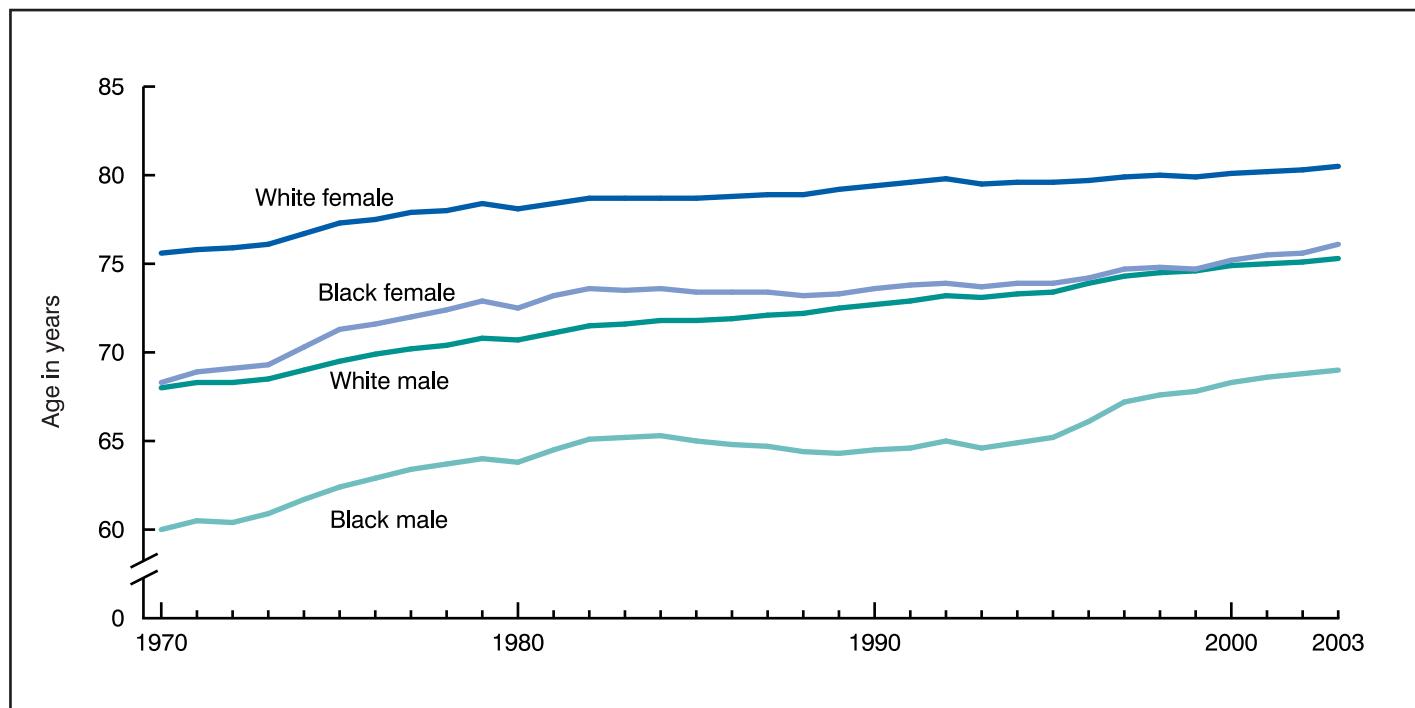


Figure 1. Life expectancy at birth by race and sex: 1970–2003

The 2003 life table may be used to compare life expectancy at any age from birth onward. On the basis of mortality experienced in 2003, a person aged 65 years could expect to live an average of 18.4 more years for a total of 83.4 years, and a person age 100 years could expect to live an additional 2.6 years on average (Table A). Life expectancy at 100 years of age, particularly for the black population, should be interpreted with caution as these figures may be affected somewhat by age misreporting (9,15,16).

Survivorship in the United States

Table B summarizes the number of survivors out of 100,000 persons born alive (I_x) by age, race, and sex. Table 10 shows trends in survivorship from 1900 to 2003. In 2003, 99.3 percent of all infants born in the U.S. survived the first year of life. In contrast, only 87.6 percent of infants born in 1900 survived the first year. Fifty-three percent of the 2003 synthetic life table cohort survived to age 80 years, and about 2.4 percent survived to age 100 years. In 1900, the median age at death was 58 years, and only 0.03 percent survived to age 100.

Among the four race-sex groups (Figure 2 and Table B), white females have the highest median age at death with about 48 percent surviving to age 84. Of the original hypothetical cohort of 100,000 infant white females, 99.1 percent survive to age 20, 87.6 percent survive to age 65, and 44.9 percent survive to age 85. For white males and black females, the pattern of survival by age is similar. These groups have approximately the same median age at death of about 79 years. However, white males have slightly higher survival rates than black

females at the younger ages with 98.6 percent surviving to age 20 and 80.0 percent surviving to age 65 compared with 98.2 percent and 78.6 percent, respectively, for black females. At the older ages, in contrast, black female survival surpasses white male survival. At age 85, white male survival is 29.9 percent compared with 34.7 percent for black females. This crossover, which occurs at about age 72, is clearly shown in Figure 2. The median age at death for black males is 72 years, 11 years less than that for white females. 97.4 percent of black males survive to age 20, 65.9 percent to age 65, and 18.6 percent to age 85. By age 100, there is very little difference between the white and black populations in terms of survival. Approximately 1 percent of white and black males and 3 and 4 percent of white and black females, respectively, survive to age 100.

Plotting the percentage surviving by age for the periods 1900–1902, 1949–51, and 2003 shows an increasingly rectangular survival curve (Figure 3). That is, the survival curve has become increasingly flat in response to progressively lower mortality, particularly at the younger ages, and increasingly vertical at the older ages. The survival curve for 1900–1902 shows a rapid decline in survival in the first few years of life and a relatively steady decline thereafter. In contrast, the survival curve for 2003 is nearly flat until about age 50, after which the decline in survival becomes more rapid. Improvements in survival between 1900–1902 and 1949–51 occurred at all ages, although the largest improvements were among the younger population. Between 1949–51 and 2003, improvements occurred primarily for the older population.

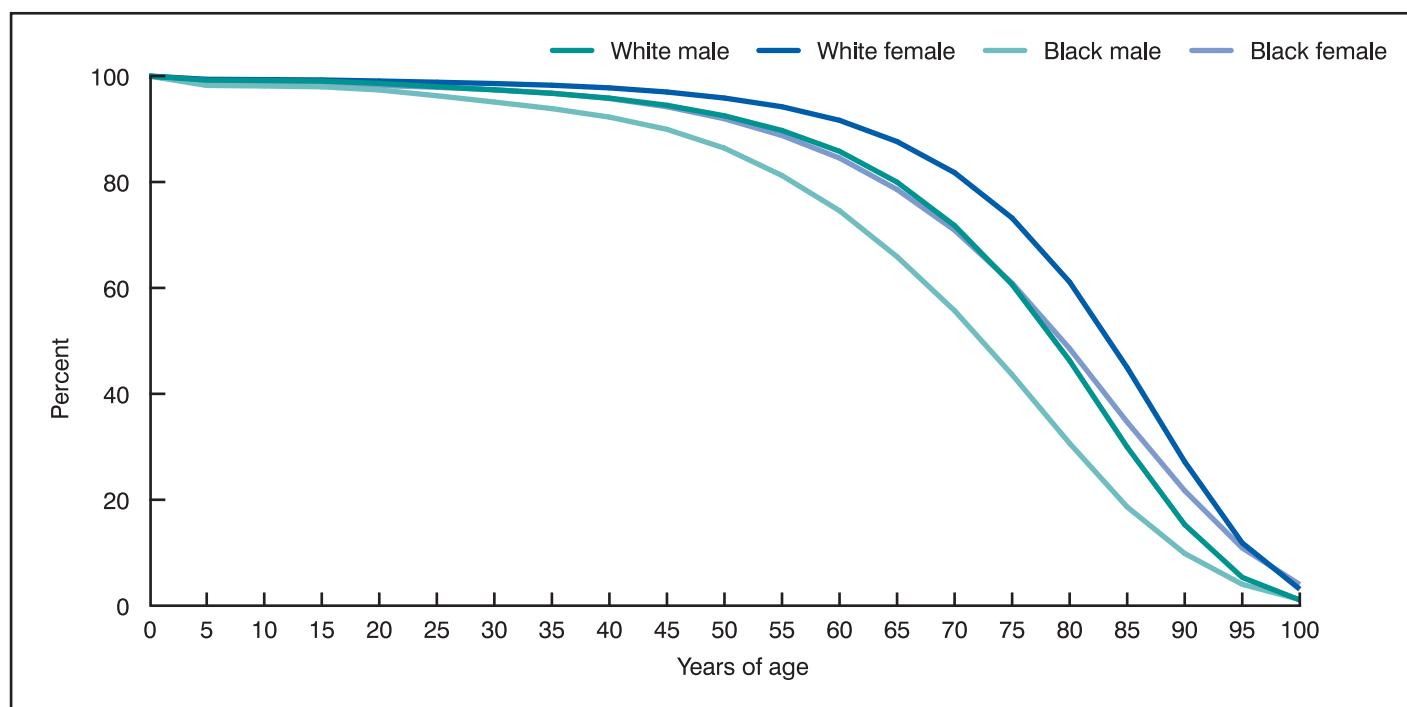


Figure 2. Percent surviving by age, race, and sex: United States, 2003

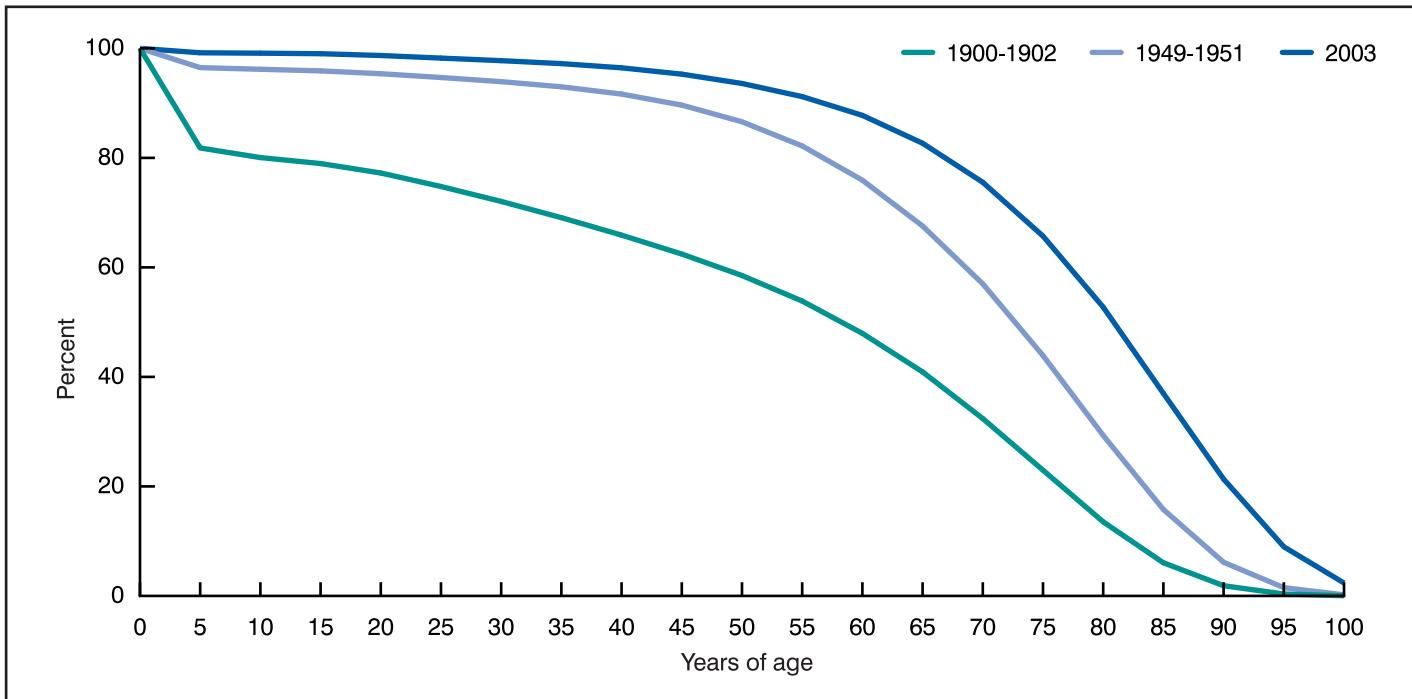


Figure 3. Percent surviving by age: Death-registration States, 1900–1902, and United States, 1949–51 and 2003

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Table 1. Life table for the total population: United States, 2003

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.006865	100,000	687	99,394	7,748,865	77.5
1–2	0.000465	99,313	46	99,290	7,649,471	77.0
2–3	0.000331	99,267	33	99,251	7,550,181	76.1
3–4	0.000259	99,234	26	99,222	7,450,930	75.1
4–5	0.000198	99,209	20	99,199	7,351,709	74.1
5–6	0.000168	99,189	17	99,181	7,252,510	73.1
6–7	0.000151	99,172	15	99,165	7,153,329	72.1
7–8	0.000142	99,158	14	99,150	7,054,164	71.1
8–9	0.000139	99,143	14	99,137	6,955,013	70.2
9–10	0.000134	99,130	13	99,123	6,855,877	69.2
10–11	0.000165	99,116	16	99,108	6,756,754	68.2
11–12	0.000147	99,100	15	99,093	6,657,646	67.2
12–13	0.000176	99,085	17	99,077	6,558,553	66.2
13–14	0.000211	99,068	21	99,057	6,459,476	65.2
14–15	0.000257	99,047	25	99,034	6,360,419	64.2
15–16	0.000339	99,022	34	99,005	6,261,385	63.2
16–17	0.000534	98,988	53	98,962	6,162,380	62.3
17–18	0.000660	98,935	65	98,903	6,063,418	61.3
18–19	0.000863	98,870	85	98,827	5,964,516	60.3
19–20	0.000925	98,784	91	98,739	5,865,689	59.4
20–21	0.000956	98,693	94	98,646	5,766,950	58.4
21–22	0.000965	98,599	95	98,551	5,668,304	57.5
22–23	0.000987	98,504	97	98,455	5,569,753	56.5
23–24	0.000953	98,406	94	98,360	5,471,298	55.6
24–25	0.000955	98,313	94	98,266	5,372,938	54.7
25–26	0.000920	98,219	90	98,174	5,274,672	53.7
26–27	0.000962	98,128	94	98,081	5,176,499	52.8
27–28	0.000949	98,034	93	97,987	5,078,418	51.8
28–29	0.000932	97,941	91	97,895	4,980,430	50.9
29–30	0.000998	97,850	98	97,801	4,882,535	49.9
30–31	0.001014	97,752	99	97,703	4,784,734	48.9
31–32	0.001046	97,653	102	97,602	4,687,032	48.0
32–33	0.001110	97,551	108	97,497	4,589,430	47.0
33–34	0.001156	97,443	113	97,386	4,491,933	46.1
34–35	0.001227	97,330	119	97,270	4,394,547	45.2
35–36	0.001357	97,210	132	97,145	4,297,277	44.2
36–37	0.001460	97,079	142	97,008	4,200,132	43.3
37–38	0.001575	96,937	153	96,861	4,103,124	42.3
38–39	0.001672	96,784	162	96,703	4,006,264	41.4
39–40	0.001847	96,622	178	96,533	3,909,561	40.5
40–41	0.002026	96,444	195	96,346	3,813,027	39.5
41–42	0.002215	96,249	213	96,142	3,716,681	38.6
42–43	0.002412	96,035	232	95,920	3,620,539	37.7
43–44	0.002550	95,804	244	95,682	3,524,620	36.8
44–45	0.002847	95,559	272	95,423	3,428,938	35.9
45–46	0.003011	95,287	287	95,144	3,333,515	35.0
46–47	0.003371	95,000	320	94,840	3,238,371	34.1
47–48	0.003591	94,680	340	94,510	3,143,531	33.2
48–49	0.003839	94,340	362	94,159	3,049,021	32.3
49–50	0.004178	93,978	393	93,782	2,954,862	31.4
50–51	0.004494	93,585	421	93,375	2,861,080	30.6
51–52	0.004804	93,165	448	92,941	2,767,705	29.7
52–53	0.005200	92,717	482	92,476	2,674,764	28.8
53–54	0.005365	92,235	495	91,988	2,582,288	28.0
54–55	0.006056	91,740	556	91,462	2,490,300	27.1
55–56	0.006333	91,185	577	90,896	2,398,838	26.3
56–57	0.007234	90,607	655	90,279	2,307,942	25.5
57–58	0.007101	89,952	639	89,632	2,217,662	24.7
58–59	0.008339	89,313	745	88,941	2,128,030	23.8
59–60	0.009126	88,568	808	88,164	2,039,089	23.0
60–61	0.010214	87,760	896	87,312	1,950,925	22.2
61–62	0.010495	86,864	912	86,408	1,863,614	21.5
62–63	0.011966	85,952	1029	85,438	1,777,206	20.7
63–64	0.012704	84,923	1079	84,384	1,691,768	19.9
64–65	0.014032	83,845	1177	83,256	1,607,384	19.2
65–66	0.015005	82,668	1240	82,048	1,524,128	18.4
66–67	0.016240	81,428	1322	80,766	1,442,080	17.7

Table 1. Life table for the total population: United States, 2003—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
67–68	0.017837	80,105	1429	79,391	1,361,314	17.0
68–69	0.019265	78,676	1516	77,918	1,281,923	16.3
69–70	0.021071	77,161	1626	76,348	1,204,004	15.6
70–71	0.023226	75,535	1754	74,658	1,127,657	14.9
71–72	0.024702	73,780	1823	72,869	1,052,999	14.3
72–73	0.027419	71,958	1973	70,971	980,130	13.6
73–74	0.029698	69,985	2078	68,946	909,159	13.0
74–75	0.032349	67,906	2197	66,808	840,213	12.4
75–76	0.035767	65,710	2350	64,535	773,405	11.8
76–77	0.039145	63,360	2480	62,119	708,870	11.2
77–78	0.042748	60,879	2602	59,578	646,751	10.6
78–79	0.046289	58,277	2698	56,928	587,172	10.1
79–80	0.051067	55,579	2838	54,160	530,244	9.5
80–81	0.056846	52,741	2998	51,242	476,084	9.0
81–82	0.061856	49,743	3077	48,204	424,842	8.5
82–83	0.067173	46,666	3135	45,099	376,638	8.1
83–84	0.077268	43,531	3364	41,850	331,539	7.6
84–85	0.079159	40,168	3180	38,578	289,689	7.2
85–86	0.086601	36,988	3203	35,386	251,112	6.8
86–87	0.094663	33,785	3198	32,186	215,725	6.4
87–88	0.103381	30,587	3162	29,006	183,539	6.0
88–89	0.112791	27,425	3093	25,878	154,534	5.6
89–90	0.122926	24,331	2991	22,836	128,656	5.3
90–91	0.133819	21,340	2856	19,913	105,820	5.0
91–92	0.145499	18,485	2689	17,140	85,907	4.6
92–93	0.157990	15,795	2495	14,547	68,767	4.4
93–94	0.171312	13,300	2278	12,160	54,220	4.1
94–95	0.185481	11,021	2044	9,999	42,059	3.8
95–96	0.200502	8,977	1800	8,077	32,060	3.6
96–97	0.216376	7,177	1553	6,401	23,983	3.3
97–98	0.233093	5,624	1311	4,969	17,582	3.1
98–99	0.250634	4,313	1081	3,773	12,614	2.9
99–100	0.268969	3,232	869	2,797	8,841	2.7
100+	1.00000	2,363	2363	6,044	6,044	2.6

Table 2. Life table for males: United States, 2003

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.007611	100,000	761	99,329	7,477,315	74.8
1–2	0.000518	99,239	51	99,213	7,377,986	74.3
2–3	0.000365	99,187	36	99,169	7,278,772	73.4
3–4	0.000293	99,151	29	99,137	7,179,603	72.4
4–5	0.000220	99,122	22	99,111	7,080,466	71.4
5–6	0.000192	99,100	19	99,091	6,981,355	70.4
6–7	0.000173	99,081	17	99,073	6,882,264	69.5
7–8	0.000152	99,064	15	99,057	6,783,191	68.5
8–9	0.000157	99,049	16	99,041	6,684,134	67.5
9–10	0.000138	99,034	14	99,027	6,585,093	66.5
10–11	0.000186	99,020	18	99,011	6,486,066	65.5
11–12	0.000162	99,002	16	98,994	6,387,055	64.5
12–13	0.000217	98,986	22	98,975	6,288,062	63.5
13–14	0.000255	98,964	25	98,951	6,189,087	62.5
14–15	0.000334	98,939	33	98,922	6,090,136	61.6
15–16	0.000430	98,906	43	98,884	5,991,213	60.6
16–17	0.000706	98,863	70	98,828	5,892,329	59.6
17–18	0.000908	98,793	90	98,748	5,793,501	58.6
18–19	0.001212	98,704	120	98,644	5,694,752	57.7
19–20	0.001356	98,584	134	98,517	5,596,108	56.8
20–21	0.001395	98,450	137	98,382	5,497,591	55.8
21–22	0.001412	98,313	139	98,244	5,399,210	54.9
22–23	0.001444	98,174	142	98,103	5,300,966	54.0
23–24	0.001388	98,032	136	97,964	5,202,863	53.1
24–25	0.001373	97,896	134	97,829	5,104,898	52.1
25–26	0.001326	97,762	130	97,697	5,007,069	51.2
26–27	0.001360	97,632	133	97,566	4,909,372	50.3
27–28	0.001317	97,500	128	97,435	4,811,806	49.4
28–29	0.001301	97,371	127	97,308	4,714,371	48.4
29–30	0.001367	97,244	133	97,178	4,617,063	47.5
30–31	0.001393	97,112	135	97,044	4,519,885	46.5
31–32	0.001416	96,976	137	96,908	4,422,841	45.6
32–33	0.001521	96,839	147	96,765	4,325,933	44.7
33–34	0.001505	96,692	146	96,619	4,229,168	43.7
34–35	0.001596	96,546	154	96,469	4,132,549	42.8
35–36	0.001732	96,392	167	96,309	4,036,080	41.9
36–37	0.001876	96,225	181	96,135	3,939,772	40.9
37–38	0.002008	96,045	193	95,948	3,843,637	40.0
38–39	0.002126	95,852	204	95,750	3,747,689	39.1
39–40	0.002341	95,648	224	95,536	3,651,939	38.2
40–41	0.002535	95,424	242	95,303	3,556,403	37.3
41–42	0.002800	95,182	266	95,049	3,461,100	36.4
42–43	0.003040	94,916	289	94,771	3,366,051	35.5
43–44	0.003231	94,627	306	94,474	3,271,279	34.6
44–45	0.003582	94,321	338	94,153	3,176,805	33.7
45–46	0.003777	93,984	355	93,806	3,082,652	32.8
46–47	0.004278	93,629	401	93,428	2,988,846	31.9
47–48	0.004598	93,228	429	93,014	2,895,418	31.1
48–49	0.004926	92,799	457	92,571	2,802,404	30.2
49–50	0.005356	92,342	495	92,095	2,709,833	29.3
50–51	0.005773	91,848	530	91,583	2,617,738	28.5
51–52	0.006153	91,318	562	91,037	2,526,155	27.7
52–53	0.006633	90,756	602	90,455	2,435,119	26.8
53–54	0.006813	90,154	614	89,847	2,344,664	26.0
54–55	0.007688	89,540	688	89,195	2,254,817	25.2
55–56	0.007986	88,851	710	88,496	2,165,622	24.4
56–57	0.009095	88,142	802	87,741	2,077,126	23.6
57–58	0.008825	87,340	771	86,955	1,989,385	22.8
58–59	0.010289	86,569	891	86,124	1,902,430	22.0
59–60	0.011298	85,678	968	85,194	1,816,307	21.2
60–61	0.012631	84,710	1,070	84,175	1,731,112	20.4
61–62	0.013049	83,640	1,091	83,095	1,646,937	19.7
62–63	0.014841	82,549	1,225	81,936	1,563,842	18.9
63–64	0.015666	81,324	1,274	80,687	1,481,906	18.2
64–65	0.017184	80,050	1,376	79,362	1,401,219	17.5
65–66	0.018456	78,674	1,452	77,948	1,321,857	16.8
66–67	0.020034	77,222	1,547	76,449	1,243,909	16.1

Table 2. Life table for males: United States, 2003—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
67–68	0.021998	75,675	1,665	74,843	1,167,460	15.4
68–69	0.023697	74,010	1,754	73,134	1,092,617	14.8
69–70	0.026257	72,257	1,897	71,308	1,019,484	14.1
70–71	0.028427	70,359	2,000	69,359	948,176	13.5
71–72	0.030325	68,359	2,073	67,323	878,816	12.9
72–73	0.033933	66,286	2,249	65,162	811,493	12.2
73–74	0.036781	64,037	2,355	62,859	746,332	11.7
74–75	0.039863	61,682	2,459	60,452	683,472	11.1
75–76	0.044460	59,223	2,633	57,906	623,020	10.5
76–77	0.048518	56,590	2,746	55,217	565,114	10.0
77–78	0.052622	53,844	2,833	52,428	509,896	9.5
78–79	0.057085	51,011	2,912	49,555	457,469	9.0
79–80	0.062847	48,099	3,023	46,587	407,914	8.5
80–81	0.069652	45,076	3,140	43,506	361,327	8.0
81–82	0.075675	41,936	3,174	40,350	317,820	7.6
82–83	0.081382	38,763	3,155	37,186	277,471	7.2
83–84	0.094027	35,608	3,348	33,934	240,285	6.7
84–85	0.095172	32,260	3,070	30,725	206,351	6.4
85–86	0.103762	29,190	3,029	27,675	175,626	6.0
86–87	0.113017	26,161	2,957	24,683	147,951	5.7
87–88	0.122971	23,204	2,853	21,778	123,268	5.3
88–89	0.133651	20,351	2,720	18,991	101,490	5.0
89–90	0.145087	17,631	2,558	16,352	82,499	4.7
90–91	0.157299	15,073	2,371	13,888	66,147	4.4
91–92	0.170307	12,702	2,163	11,620	52,260	4.1
92–93	0.184124	10,539	1,940	9,569	40,639	3.9
93–94	0.198755	8,598	1,709	7,744	31,071	3.6
94–95	0.214201	6,889	1,476	6,152	23,327	3.4
95–96	0.230452	5,414	1,248	4,790	17,175	3.2
96–97	0.247491	4,166	1,031	3,651	12,386	3.0
97–98	0.265289	3,135	832	2,719	8,735	2.8
98–99	0.283809	2,303	654	1,976	6,016	2.6
99–100	0.303003	1,650	500	1,400	4,039	2.4
100+	1.00000	1,150	1,150	2,640	2,640	2.3

Table 3. Life table for females: United States, 2003

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.006083	100,000	608	99,460	8,009,389	80.1
1–2	0.000410	99,392	41	99,371	7,909,929	79.6
2–3	0.000296	99,351	29	99,336	7,810,557	78.6
3–4	0.000223	99,322	22	99,310	7,711,221	77.6
4–5	0.000175	99,299	17	99,291	7,611,911	76.7
5–6	0.000143	99,282	14	99,275	7,512,620	75.7
6–7	0.000127	99,268	13	99,262	7,413,345	74.7
7–8	0.000132	99,255	13	99,249	7,314,083	73.7
8–9	0.000121	99,242	12	99,236	7,214,835	72.7
9–10	0.000129	99,230	13	99,224	7,115,599	71.7
10–11	0.000143	99,217	14	99,210	7,016,375	70.7
11–12	0.000132	99,203	13	99,197	6,917,164	69.7
12–13	0.000133	99,190	13	99,183	6,817,968	68.7
13–14	0.000164	99,177	16	99,169	6,718,784	67.7
14–15	0.000176	99,161	17	99,152	6,619,616	66.8
15–16	0.000243	99,143	24	99,131	6,520,464	65.8
16–17	0.000353	99,119	35	99,102	6,421,333	64.8
17–18	0.000399	99,084	39	99,064	6,322,231	63.8
18–19	0.000494	99,045	49	99,020	6,223,167	62.8
19–20	0.000465	98,996	46	98,973	6,124,147	61.9
20–21	0.000486	98,950	48	98,926	6,025,174	60.9
21–22	0.000489	98,902	48	98,877	5,926,248	59.9
22–23	0.000505	98,853	50	98,828	5,827,371	58.9
23–24	0.000495	98,803	49	98,779	5,728,543	58.0
24–25	0.000514	98,754	51	98,729	5,629,764	57.0
25–26	0.000494	98,704	49	98,679	5,531,035	56.0
26–27	0.000547	98,655	54	98,628	5,432,356	55.1
27–28	0.000566	98,601	56	98,573	5,333,728	54.1
28–29	0.000549	98,545	54	98,518	5,235,155	53.1
29–30	0.000618	98,491	61	98,461	5,136,637	52.2
30–31	0.000626	98,430	62	98,399	5,038,176	51.2
31–32	0.000669	98,369	66	98,336	4,939,777	50.2
32–33	0.000693	98,303	68	98,269	4,841,441	49.3
33–34	0.000799	98,235	78	98,195	4,743,172	48.3
34–35	0.000852	98,156	84	98,114	4,644,977	47.3
35–36	0.000977	98,073	96	98,025	4,546,862	46.4
36–37	0.001040	97,977	102	97,926	4,448,838	45.4
37–38	0.001141	97,875	112	97,819	4,350,912	44.5
38–39	0.001216	97,763	119	97,704	4,253,093	43.5
39–40	0.001356	97,644	132	97,578	4,155,389	42.6
40–41	0.001521	97,512	148	97,438	4,057,811	41.6
41–42	0.001635	97,364	159	97,284	3,960,373	40.7
42–43	0.001795	97,204	174	97,117	3,863,089	39.7
43–44	0.001876	97,030	182	96,939	3,765,972	38.8
44–45	0.002125	96,848	206	96,745	3,669,033	37.9
45–46	0.002261	96,642	219	96,533	3,572,288	37.0
46–47	0.002486	96,424	240	96,304	3,475,755	36.0
47–48	0.002613	96,184	251	96,058	3,379,451	35.1
48–49	0.002780	95,933	267	95,799	3,283,393	34.2
49–50	0.003040	95,666	291	95,520	3,187,594	33.3
50–51	0.003264	95,375	311	95,219	3,092,073	32.4
51–52	0.003508	95,064	333	94,897	2,996,854	31.5
52–53	0.003829	94,730	363	94,549	2,901,957	30.6
53–54	0.003978	94,367	375	94,180	2,807,408	29.7
54–55	0.004502	93,992	423	93,781	2,713,228	28.9
55–56	0.004759	93,569	445	93,346	2,619,448	28.0
56–57	0.005466	93,124	509	92,869	2,526,102	27.1
57–58	0.005474	92,615	507	92,361	2,433,232	26.3
58–59	0.006512	92,108	600	91,808	2,340,871	25.4
59–60	0.007104	91,508	650	91,183	2,249,063	24.6
60–61	0.007979	90,858	725	90,495	2,157,881	23.8
61–62	0.008150	90,133	735	89,766	2,067,385	22.9
62–63	0.009356	89,398	836	88,980	1,977,620	22.1
63–64	0.010029	88,562	888	88,118	1,888,640	21.3
64–65	0.011201	87,674	982	87,183	1,800,522	20.5
65–66	0.011923	86,692	1,034	86,175	1,713,339	19.8
66–67	0.012895	85,658	1,105	85,106	1,627,165	19.0

Table 3. Life table for females: United States, 2003—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
67–68	0.014225	84,553	1,203	83,952	1,542,059	18.2
68–69	0.015455	83,351	1,288	82,706	1,458,107	17.5
69–70	0.016688	82,062	1,369	81,378	1,375,401	16.8
70–71	0.018890	80,693	1,524	79,931	1,294,023	16.0
71–72	0.020078	79,169	1,590	78,374	1,214,092	15.3
72–73	0.022156	77,579	1,719	76,720	1,135,718	14.6
73–74	0.024088	75,860	1,827	74,947	1,058,999	14.0
74–75	0.026516	74,033	1,963	73,051	984,052	13.3
75–76	0.029150	72,070	2,101	71,019	911,001	12.6
76–77	0.032215	69,969	2,254	68,842	839,981	12.0
77–78	0.035695	67,715	2,417	66,506	771,139	11.4
78–79	0.038807	65,298	2,534	64,031	704,633	10.8
79–80	0.043098	62,764	2,705	61,411	640,602	10.2
80–81	0.048423	60,059	2,908	58,605	579,191	9.6
81–82	0.053033	57,151	3,031	55,635	520,586	9.1
82–83	0.058390	54,120	3,160	52,540	464,951	8.6
83–84	0.067373	50,960	3,433	49,243	412,411	8.1
84–85	0.069965	47,526	3,325	45,864	363,168	7.6
85–86	0.077121	44,201	3,409	42,497	317,304	7.2
86–87	0.084936	40,792	3,465	39,060	274,807	6.7
87–88	0.093453	37,328	3,488	35,583	235,747	6.3
88–89	0.102719	33,839	3,476	32,101	200,164	5.9
89–90	0.112778	30,363	3,424	28,651	168,062	5.5
90–91	0.123671	26,939	3,332	25,273	139,411	5.2
91–92	0.135439	23,607	3,197	22,009	114,138	4.8
92–93	0.148116	20,410	3,023	18,899	92,129	4.5
93–94	0.161733	17,387	2,812	15,981	73,230	4.2
94–95	0.176314	14,575	2,570	13,290	57,249	3.9
95–96	0.191874	12,005	2,303	10,853	43,959	3.7
96–97	0.208419	9,702	2,022	8,691	33,106	3.4
97–98	0.225945	7,680	1,735	6,812	24,415	3.2
98–99	0.244433	5,945	1,453	5,218	17,603	3.0
99–100	0.263854	4,491	1,185	3,899	12,385	2.8
100+	1.00000	3,306	3,306	8,486	8,486	2.6

Table 4. Life table for the white population: United States, 2003

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.005725	100,000	572	99,494	7,796,025	78.0
1–2	0.000416	99,428	41	99,407	7,696,530	77.4
2–3	0.000296	99,386	29	99,371	7,597,123	76.4
3–4	0.000235	99,357	23	99,345	7,497,752	75.5
4–5	0.000190	99,333	19	99,324	7,398,407	74.5
5–6	0.000154	99,315	15	99,307	7,299,083	73.5
6–7	0.000141	99,299	14	99,292	7,199,776	72.5
7–8	0.000134	99,285	13	99,279	7,100,484	71.5
8–9	0.000129	99,272	13	99,265	7,001,205	70.5
9–10	0.000128	99,259	13	99,253	6,901,940	69.5
10–11	0.000148	99,246	15	99,239	6,802,687	68.5
11–12	0.000130	99,232	13	99,225	6,703,448	67.6
12–13	0.000165	99,219	16	99,210	6,604,223	66.6
13–14	0.000200	99,202	20	99,192	6,505,012	65.6
14–15	0.000244	99,182	24	99,170	6,405,820	64.6
15–16	0.000331	99,158	33	99,142	6,306,650	63.6
16–17	0.000530	99,125	52	99,099	6,207,508	62.6
17–18	0.000658	99,073	65	99,040	6,108,408	61.7
18–19	0.000831	99,008	82	98,967	6,009,368	60.7
19–20	0.000883	98,926	87	98,882	5,910,401	59.7
20–21	0.000886	98,838	88	98,794	5,811,519	58.8
21–22	0.000923	98,751	91	98,705	5,712,725	57.9
22–23	0.000922	98,659	91	98,614	5,614,020	56.9
23–24	0.000864	98,568	85	98,526	5,515,406	56.0
24–25	0.000872	98,483	86	98,440	5,416,880	55.0
25–26	0.000836	98,397	82	98,356	5,318,440	54.1
26–27	0.000861	98,315	85	98,273	5,220,084	53.1
27–28	0.000844	98,230	83	98,189	5,121,811	52.1
28–29	0.000865	98,148	85	98,105	5,023,622	51.2
29–30	0.000901	98,063	88	98,018	4,925,517	50.2
30–31	0.000921	97,974	90	97,929	4,827,498	49.3
31–32	0.000969	97,884	95	97,837	4,729,569	48.3
32–33	0.001012	97,789	99	97,740	4,631,732	47.4
33–34	0.001060	97,690	104	97,639	4,533,993	46.4
34–35	0.001118	97,587	109	97,532	4,436,354	45.5
35–36	0.001226	97,478	119	97,418	4,338,822	44.5
36–37	0.001327	97,358	129	97,294	4,241,404	43.6
37–38	0.001449	97,229	141	97,158	4,144,111	42.6
38–39	0.001529	97,088	148	97,014	4,046,952	41.7
39–40	0.001699	96,940	165	96,857	3,949,938	40.7
40–41	0.001872	96,775	181	96,684	3,853,081	39.8
41–42	0.002037	96,594	197	96,495	3,756,397	38.9
42–43	0.002213	96,397	213	96,290	3,659,901	38.0
43–44	0.002359	96,184	227	96,070	3,563,611	37.1
44–45	0.002633	95,957	253	95,830	3,467,541	36.1
45–46	0.002779	95,704	266	95,571	3,371,710	35.2
46–47	0.003071	95,438	293	95,292	3,276,139	34.3
47–48	0.003309	95,145	315	94,988	3,180,848	33.4
48–49	0.003504	94,830	332	94,664	3,085,860	32.5
49–50	0.003828	94,498	362	94,317	2,991,196	31.7
50–51	0.004122	94,136	388	93,942	2,896,879	30.8
51–52	0.004381	93,748	411	93,543	2,802,937	29.9
52–53	0.004724	93,338	441	93,117	2,709,394	29.0
53–54	0.004937	92,897	459	92,667	2,616,276	28.2
54–55	0.005591	92,438	517	92,180	2,523,609	27.3
55–56	0.005888	91,921	541	91,651	2,431,430	26.5
56–57	0.006851	91,380	626	91,067	2,339,779	25.6
57–58	0.006655	90,754	604	90,452	2,248,712	24.8
58–59	0.007840	90,150	707	89,797	2,158,260	23.9
59–60	0.008641	89,443	773	89,057	2,068,464	23.1
60–61	0.009671	88,670	858	88,242	1,979,407	22.3
61–62	0.009997	87,813	878	87,374	1,891,165	21.5
62–63	0.011371	86,935	989	86,441	1,803,791	20.7
63–64	0.012186	85,946	1,047	85,423	1,717,351	20.0
64–65	0.013481	84,899	1,145	84,327	1,631,928	19.2

Table 4. Life table for the white population: United States, 2003—Con.

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
65–66	0.014403	83,755	1,206	83,151	1,547,601	18.5
66–67	0.015769	82,548	1,302	81,897	1,464,450	17.7
67–68	0.017279	81,246	1,404	80,545	1,382,552	17.0
68–69	0.018808	79,843	1,502	79,092	1,302,008	16.3
69–70	0.020465	78,341	1,603	77,539	1,222,916	15.6
70–71	0.022740	76,738	1,745	75,865	1,145,377	14.9
71–72	0.024128	74,993	1,809	74,088	1,069,512	14.3
72–73	0.026900	73,183	1,969	72,199	995,424	13.6
73–74	0.029207	71,215	2,080	70,175	923,225	13.0
74–75	0.031901	69,135	2,205	68,032	853,050	12.3
75–76	0.035365	66,929	2,367	65,746	785,018	11.7
76–77	0.038736	64,562	2,501	63,312	719,272	11.1
77–78	0.042357	62,061	2,629	60,747	655,960	10.6
78–79	0.045997	59,433	2,734	58,066	595,213	10.0
79–80	0.050852	56,699	2,883	55,257	537,147	9.5
80–81	0.056728	53,816	3,053	52,289	481,890	9.0
81–82	0.061787	50,763	3,137	49,195	429,601	8.5
82–83	0.067223	47,626	3,202	46,026	380,406	8.0
83–84	0.077585	44,425	3,447	42,701	334,380	7.5
84–85	0.079832	40,978	3,271	39,342	291,679	7.1
85–86	0.087523	37,707	3,300	36,057	252,336	6.7
86–87	0.095870	34,407	3,299	32,757	216,280	6.3
87–88	0.104911	31,108	3,264	29,476	183,523	5.9
88–89	0.114686	27,844	3,193	26,248	154,046	5.5
89–90	0.125229	24,651	3,087	23,108	127,799	5.2
90–91	0.136576	21,564	2,945	20,091	104,691	4.9
91–92	0.148756	18,619	2,770	17,234	84,600	4.5
92–93	0.161796	15,849	2,564	14,567	67,366	4.3
93–94	0.175716	13,285	2,334	12,118	52,799	4.0
94–95	0.190528	10,951	2,086	9,907	40,681	3.7
95–96	0.206240	8,864	1,828	7,950	30,774	3.5
96–97	0.222846	7,036	1,568	6,252	22,824	3.2
97–98	0.240334	5,468	1,314	4,811	16,572	3.0
98–99	0.258679	4,154	1,075	3,617	11,761	2.8
99–100	0.277845	3,079	856	2,652	8,144	2.6
100+	1.00000	2,224	2,224	5,492	5,492	2.5

Table 5. Life table for white males: United States, 2003

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.006366	100,000	637	99,440	7,533,006	75.3
1–2	0.000458	99,363	45	99,341	7,433,566	74.8
2–3	0.000325	99,318	32	99,302	7,334,225	73.8
3–4	0.000266	99,286	26	99,272	7,234,923	72.9
4–5	0.000205	99,259	20	99,249	7,135,651	71.9
5–6	0.000180	99,239	18	99,230	7,036,402	70.9
6–7	0.000168	99,221	17	99,213	6,937,172	69.9
7–8	0.000140	99,204	14	99,197	6,837,959	68.9
8–9	0.000147	99,191	15	99,183	6,738,761	67.9
9–10	0.000130	99,176	13	99,169	6,639,578	66.9
10–11	0.000164	99,163	16	99,155	6,540,409	66.0
11–12	0.000147	99,147	15	99,139	6,441,254	65.0
12–13	0.000207	99,132	21	99,122	6,342,114	64.0
13–14	0.000239	99,112	24	99,100	6,242,993	63.0
14–15	0.000309	99,088	31	99,073	6,143,893	62.0
15–16	0.000412	99,057	41	99,037	6,044,820	61.0
16–17	0.000683	99,016	68	98,983	5,945,784	60.0
17–18	0.000896	98,949	89	98,905	5,846,801	59.1
18–19	0.001143	98,860	113	98,804	5,747,896	58.1
19–20	0.001276	98,747	126	98,684	5,649,093	57.2
20–21	0.001291	98,621	127	98,558	5,550,409	56.3
21–22	0.001344	98,494	132	98,428	5,451,851	55.4
22–23	0.001338	98,362	132	98,296	5,353,423	54.4
23–24	0.001242	98,230	122	98,169	5,255,128	53.5
24–25	0.001237	98,108	121	98,047	5,156,959	52.6
25–26	0.001184	97,987	116	97,929	5,058,911	51.6
26–27	0.001209	97,871	118	97,811	4,960,983	50.7
27–28	0.001165	97,752	114	97,695	4,863,171	49.7
28–29	0.001198	97,638	117	97,580	4,765,476	48.8
29–30	0.001243	97,521	121	97,461	4,667,896	47.9
30–31	0.001277	97,400	124	97,338	4,570,435	46.9
31–32	0.001308	97,276	127	97,212	4,473,097	46.0
32–33	0.001387	97,149	135	97,081	4,375,885	45.0
33–34	0.001385	97,014	134	96,947	4,278,803	44.1
34–35	0.001480	96,880	143	96,808	4,181,857	43.2
35–36	0.001577	96,736	153	96,660	4,085,049	42.2
36–37	0.001733	96,584	167	96,500	3,988,389	41.3
37–38	0.001873	96,416	181	96,326	3,891,889	40.4
38–39	0.001964	96,236	189	96,141	3,795,563	39.4
39–40	0.002177	96,047	209	95,942	3,699,422	38.5
40–41	0.002399	95,837	230	95,723	3,603,479	37.6
41–42	0.002611	95,608	250	95,483	3,507,757	36.7
42–43	0.002808	95,358	268	95,224	3,412,274	35.8
43–44	0.002993	95,090	285	94,948	3,317,050	34.9
44–45	0.003368	94,806	319	94,646	3,222,102	34.0
45–46	0.003527	94,486	333	94,320	3,127,456	33.1
46–47	0.003955	94,153	372	93,967	3,033,137	32.2
47–48	0.004275	93,781	401	93,580	2,939,170	31.3
48–49	0.004526	93,380	423	93,168	2,845,590	30.5
49–50	0.004918	92,957	457	92,729	2,752,422	29.6
50–51	0.005303	92,500	491	92,255	2,659,693	28.8
51–52	0.005633	92,009	518	91,750	2,567,438	27.9
52–53	0.006025	91,491	551	91,215	2,475,688	27.1
53–54	0.006290	90,940	572	90,654	2,384,473	26.2
54–55	0.007118	90,368	643	90,046	2,293,819	25.4
55–56	0.007413	89,725	665	89,392	2,203,773	24.6
56–57	0.008601	89,059	766	88,676	2,114,381	23.7
57–58	0.008271	88,293	730	87,928	2,025,704	22.9
58–59	0.009631	87,563	843	87,142	1,937,776	22.1
59–60	0.010662	86,720	925	86,258	1,850,634	21.3
60–61	0.011924	85,795	1,023	85,284	1,764,377	20.6
61–62	0.012422	84,772	1,053	84,246	1,679,093	19.8
62–63	0.014049	83,719	1,176	83,131	1,594,847	19.0
63–64	0.015032	82,543	1,241	81,923	1,511,716	18.3
64–65	0.016425	81,302	1,335	80,635	1,429,794	17.6

Table 5. Life table for white males: United States, 2003—Con.

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
65–66	0.017708	79,967	1,416	79,259	1,349,159	16.9
66–67	0.019462	78,551	1,529	77,786	1,269,900	16.2
67–68	0.021301	77,022	1,641	76,202	1,192,114	15.5
68–69	0.023056	75,381	1,738	74,512	1,115,912	14.8
69–70	0.025432	73,643	1,873	72,707	1,041,400	14.1
70–71	0.027816	71,770	1,996	70,772	968,693	13.5
71–72	0.029476	69,774	2,057	68,746	897,921	12.9
72–73	0.033229	67,717	2,250	66,592	829,175	12.2
73–74	0.036104	65,467	2,364	64,285	762,582	11.6
74–75	0.039230	63,104	2,476	61,866	698,297	11.1
75–76	0.043921	60,628	2,663	59,297	636,431	10.5
76–77	0.047887	57,965	2,776	56,577	577,135	10.0
77–78	0.052068	55,189	2,874	53,753	520,557	9.4
78–79	0.056615	52,316	2,962	50,835	466,805	8.9
79–80	0.062591	49,354	3,089	47,809	415,970	8.4
80–81	0.069332	46,265	3,208	44,661	368,160	8.0
81–82	0.075461	43,057	3,249	41,433	323,499	7.5
82–83	0.081450	39,808	3,242	38,187	282,066	7.1
83–84	0.094345	36,566	3,450	34,841	243,879	6.7
84–85	0.095965	33,116	3,178	31,527	209,038	6.3
85–86	0.104861	29,938	3,139	28,368	177,511	5.9
86–87	0.114465	26,799	3,068	25,265	149,143	5.6
87–88	0.124810	23,731	2,962	22,250	123,878	5.2
88–89	0.135929	20,769	2,823	19,358	101,628	4.9
89–90	0.147850	17,946	2,653	16,619	82,270	4.6
90–91	0.160597	15,293	2,456	14,065	65,651	4.3
91–92	0.174188	12,837	2,236	11,719	51,586	4.0
92–93	0.188636	10,601	2,000	9,601	39,867	3.8
93–94	0.203947	8,601	1,754	7,724	30,266	3.5
94–95	0.220115	6,847	1,507	6,093	22,542	3.3
95–96	0.237130	5,340	1,266	4,707	16,449	3.1
96–97	0.254967	4,074	1,039	3,554	11,742	2.9
97–98	0.273593	3,035	830	2,620	8,188	2.7
98–99	0.292962	2,205	646	1,882	5,568	2.5
99–100	0.313017	1,559	488	1,315	3,686	2.4
100+	1.00000	1,071	1,071	2,371	2,371	2.2

Table 6. Life table for white females: United States, 2003

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.005052	100,000	505	99,551	8,050,674	80.5
1–2	0.000372	99,495	37	99,476	7,951,123	79.9
2–3	0.000266	99,458	26	99,445	7,851,647	78.9
3–4	0.000202	99,431	20	99,421	7,752,202	78.0
4–5	0.000175	99,411	17	99,403	7,652,781	77.0
5–6	0.000127	99,394	13	99,388	7,553,378	76.0
6–7	0.000113	99,381	11	99,376	7,453,990	75.0
7–8	0.000129	99,370	13	99,364	7,354,615	74.0
8–9	0.000110	99,357	11	99,352	7,255,251	73.0
9–10	0.000126	99,346	12	99,340	7,155,899	72.0
10–11	0.000131	99,334	13	99,327	7,056,559	71.0
11–12	0.000113	99,321	11	99,315	6,957,232	70.0
12–13	0.000121	99,310	12	99,304	6,857,917	69.1
13–14	0.000158	99,298	16	99,290	6,758,613	68.1
14–15	0.000175	99,282	17	99,273	6,659,323	67.1
15–16	0.000245	99,265	24	99,252	6,560,050	66.1
16–17	0.000368	99,240	37	99,222	6,460,798	65.1
17–18	0.000405	99,204	40	99,184	6,361,576	64.1
18–19	0.000499	99,163	49	99,139	6,262,392	63.2
19–20	0.000461	99,114	46	99,091	6,163,253	62.2
20–21	0.000447	99,068	44	99,046	6,064,162	61.2
21–22	0.000472	99,024	47	99,001	5,965,116	60.2
22–23	0.000478	98,977	47	98,954	5,866,115	59.3
23–24	0.000459	98,930	45	98,907	5,767,162	58.3
24–25	0.000479	98,885	47	98,861	5,668,255	57.3
25–26	0.000463	98,837	46	98,814	5,569,394	56.3
26–27	0.000487	98,791	48	98,767	5,470,579	55.4
27–28	0.000503	98,743	50	98,718	5,371,812	54.4
28–29	0.000510	98,694	50	98,668	5,273,094	53.4
29–30	0.000539	98,643	53	98,617	5,174,425	52.5
30–31	0.000549	98,590	54	98,563	5,075,809	51.5
31–32	0.000613	98,536	60	98,506	4,977,245	50.5
32–33	0.000622	98,476	61	98,445	4,878,740	49.5
33–34	0.000720	98,414	71	98,379	4,780,295	48.6
34–35	0.000741	98,343	73	98,307	4,681,916	47.6
35–36	0.000861	98,271	85	98,228	4,583,609	46.6
36–37	0.000910	98,186	89	98,141	4,485,380	45.7
37–38	0.001013	98,097	99	98,047	4,387,239	44.7
38–39	0.001080	97,997	106	97,944	4,289,192	43.8
39–40	0.001214	97,892	119	97,832	4,191,248	42.8
40–41	0.001339	97,773	131	97,707	4,093,416	41.9
41–42	0.001457	97,642	142	97,571	3,995,708	40.9
42–43	0.001614	97,500	157	97,421	3,898,138	40.0
43–44	0.001715	97,342	167	97,259	3,800,717	39.0
44–45	0.001895	97,175	184	97,083	3,703,458	38.1
45–46	0.002030	96,991	197	96,893	3,606,375	37.2
46–47	0.002190	96,794	212	96,688	3,509,483	36.3
47–48	0.002350	96,582	227	96,469	3,412,794	35.3
48–49	0.002486	96,355	240	96,235	3,316,326	34.4
49–50	0.002752	96,116	264	95,983	3,220,091	33.5
50–51	0.002959	95,851	284	95,709	3,124,107	32.6
51–52	0.003151	95,567	301	95,417	3,028,398	31.7
52–53	0.003452	95,266	329	95,102	2,932,981	30.8
53–54	0.003611	94,937	343	94,766	2,837,879	29.9
54–55	0.004104	94,595	388	94,400	2,743,113	29.0
55–56	0.004407	94,206	415	93,999	2,648,713	28.1
56–57	0.005156	93,791	484	93,549	2,554,714	27.2
57–58	0.005101	93,308	476	93,070	2,461,165	26.4
58–59	0.006129	92,832	569	92,547	2,368,095	25.5
59–60	0.006722	92,263	620	91,953	2,275,548	24.7
60–61	0.007551	91,642	692	91,296	2,183,595	23.8
61–62	0.007731	90,951	703	90,599	2,092,299	23.0
62–63	0.008895	90,247	803	89,846	2,001,700	22.2
63–64	0.009569	89,445	856	89,017	1,911,854	21.4
64–65	0.010787	88,589	956	88,111	1,822,837	20.6

Table 6. Life table for white females: United States, 2003—Con.

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
65–66	0.011398	87,633	999	87,134	1,734,726	19.8
66–67	0.012454	86,634	1,079	86,095	1,647,593	19.0
67–68	0.013717	85,555	1,174	84,969	1,561,498	18.3
68–69	0.015085	84,382	1,273	83,745	1,476,529	17.5
69–70	0.016182	83,109	1,345	82,436	1,392,784	16.8
70–71	0.018419	81,764	1,506	81,011	1,310,348	16.0
71–72	0.019638	80,258	1,576	79,470	1,229,337	15.3
72–73	0.021685	78,682	1,706	77,829	1,149,867	14.6
73–74	0.023638	76,976	1,820	76,066	1,072,038	13.9
74–75	0.026094	75,156	1,961	74,175	995,972	13.3
75–76	0.028728	73,195	2,103	72,144	921,797	12.6
76–77	0.031848	71,092	2,264	69,960	849,653	12.0
77–78	0.035298	68,828	2,429	67,613	779,693	11.3
78–79	0.038543	66,399	2,559	65,119	712,080	10.7
79–80	0.042827	63,839	2,734	62,472	646,961	10.1
80–81	0.048364	61,105	2,955	59,628	584,488	9.6
81–82	0.052986	58,150	3,081	56,609	524,861	9.0
82–83	0.058354	55,069	3,213	53,462	468,251	8.5
83–84	0.067603	51,855	3,506	50,103	414,789	8.0
84–85	0.070514	48,350	3,409	46,645	364,687	7.5
85–86	0.077904	44,940	3,501	43,190	318,041	7.1
86–87	0.085990	41,439	3,563	39,658	274,851	6.6
87–88	0.094821	37,876	3,591	36,080	235,194	6.2
88–89	0.104445	34,285	3,581	32,494	199,113	5.8
89–90	0.114909	30,704	3,528	28,940	166,619	5.4
90–91	0.126258	27,176	3,431	25,460	137,680	5.1
91–92	0.138535	23,744	3,289	22,100	112,219	4.7
92–93	0.151777	20,455	3,105	18,903	90,120	4.4
93–94	0.166014	17,350	2,880	15,910	71,217	4.1
94–95	0.181271	14,470	2,623	13,159	55,307	3.8
95–96	0.197561	11,847	2,341	10,677	42,148	3.6
96–97	0.214888	9,506	2,043	8,485	31,472	3.3
97–98	0.233242	7,464	1,741	6,593	22,986	3.1
98–99	0.252600	5,723	1,446	5,000	16,393	2.9
99–100	0.272923	4,277	1,167	3,694	11,393	2.7
100+	1.00000	3,110	3,110	7,700	7,700	2.5

Table 7. Life table for the black population: United States, 2003

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.014034	100,000	1,403	98,754	7,270,215	72.7
1–2	0.000723	98,597	71	98,561	7,171,461	72.7
2–3	0.000488	98,525	48	98,501	7,072,900	71.8
3–4	0.000397	98,477	39	98,458	6,974,399	70.8
4–5	0.000245	98,438	24	98,426	6,875,941	69.9
5–6	0.000228	98,414	22	98,403	6,777,515	68.9
6–7	0.000206	98,391	20	98,381	6,679,112	67.9
7–8	0.000192	98,371	19	98,362	6,580,731	66.9
8–9	0.000195	98,352	19	98,343	6,482,369	65.9
9–10	0.000169	98,333	17	98,325	6,384,026	64.9
10–11	0.000246	98,317	24	98,304	6,285,702	63.9
11–12	0.000230	98,292	23	98,281	6,187,397	62.9
12–13	0.000243	98,270	24	98,258	6,089,116	62.0
13–14	0.000262	98,246	26	98,233	5,990,858	61.0
14–15	0.000306	98,220	30	98,205	5,892,625	60.0
15–16	0.000392	98,190	38	98,171	5,794,420	59.0
16–17	0.000598	98,152	59	98,122	5,696,249	58.0
17–18	0.000721	98,093	71	98,058	5,598,127	57.1
18–19	0.001100	98,022	108	97,968	5,500,069	56.1
19–20	0.001218	97,914	119	97,855	5,402,101	55.2
20–21	0.001440	97,795	141	97,725	5,304,246	54.2
21–22	0.001310	97,654	128	97,590	5,206,521	53.3
22–23	0.001469	97,526	143	97,455	5,108,931	52.4
23–24	0.001586	97,383	154	97,306	5,011,476	51.5
24–25	0.001561	97,229	152	97,153	4,914,171	50.5
25–26	0.001529	97,077	148	97,003	4,817,018	49.6
26–27	0.001754	96,928	170	96,843	4,720,015	48.7
27–28	0.001780	96,758	172	96,672	4,623,172	47.8
28–29	0.001557	96,586	150	96,511	4,526,500	46.9
29–30	0.001813	96,436	175	96,348	4,429,989	45.9
30–31	0.001773	96,261	171	96,176	4,333,641	45.0
31–32	0.001760	96,090	169	96,006	4,237,465	44.1
32–33	0.001971	95,921	189	95,827	4,141,459	43.2
33–34	0.002028	95,732	194	95,635	4,045,633	42.3
34–35	0.002158	95,538	206	95,435	3,949,998	41.3
35–36	0.002424	95,332	231	95,216	3,854,563	40.4
36–37	0.002577	95,101	245	94,978	3,759,347	39.5
37–38	0.002677	94,855	254	94,729	3,664,369	38.6
38–39	0.002883	94,602	273	94,465	3,569,640	37.7
39–40	0.003129	94,329	295	94,181	3,475,175	36.8
40–41	0.003384	94,034	318	93,875	3,380,994	36.0
41–42	0.003783	93,716	355	93,538	3,287,119	35.1
42–43	0.004167	93,361	389	93,166	3,193,581	34.2
43–44	0.004311	92,972	401	92,771	3,100,415	33.3
44–45	0.004852	92,571	449	92,347	3,007,643	32.5
45–46	0.005155	92,122	475	91,885	2,915,297	31.6
46–47	0.006024	91,647	552	91,371	2,823,412	30.8
47–48	0.006230	91,095	568	90,811	2,732,041	30.0
48–49	0.006915	90,527	626	90,215	2,641,230	29.2
49–50	0.007405	89,902	666	89,569	2,551,015	28.4
50–51	0.008162	89,236	728	88,872	2,461,447	27.6
51–52	0.008930	88,507	790	88,112	2,372,575	26.8
52–53	0.009610	87,717	843	87,296	2,284,463	26.0
53–54	0.009511	86,874	826	86,461	2,197,167	25.3
54–55	0.010782	86,048	928	85,584	2,110,706	24.5
55–56	0.011445	85,120	974	84,633	2,025,122	23.8
56–57	0.012210	84,146	1,027	83,632	1,940,489	23.1
57–58	0.012267	83,119	1,020	82,609	1,856,857	22.3
58–59	0.014117	82,099	1,159	81,519	1,774,248	21.6
59–60	0.015001	80,940	1,214	80,333	1,692,729	20.9
60–61	0.016888	79,726	1,346	79,053	1,612,396	20.2
61–62	0.016993	78,379	1,332	77,713	1,533,343	19.6
62–63	0.019385	77,048	1,494	76,301	1,455,630	18.9
63–64	0.019473	75,554	1,471	74,818	1,379,329	18.3
64–65	0.021522	74,083	1,594	73,285	1,304,511	17.6

Table 7. Life table for the black population: United States, 2003—Con.

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
65–66	0.022806	72,488	1,653	71,662	1,231,225	17.0
66–67	0.023320	70,835	1,652	70,009	1,159,564	16.4
67–68	0.026034	69,183	1,801	68,283	1,089,554	15.7
68–69	0.026702	67,382	1,799	66,483	1,021,272	15.2
69–70	0.029958	65,583	1,965	64,601	954,789	14.6
70–71	0.031525	63,618	2,006	62,615	890,189	14.0
71–72	0.034437	61,613	2,122	60,552	827,573	13.4
72–73	0.037493	59,491	2,230	58,376	767,022	12.9
73–74	0.039996	57,260	2,290	56,115	708,646	12.4
74–75	0.042161	54,970	2,318	53,811	652,531	11.9
75–76	0.045531	52,653	2,397	51,454	598,719	11.4
76–77	0.049762	50,255	2,501	49,005	547,265	10.9
77–78	0.053552	47,754	2,557	46,476	498,260	10.4
78–79	0.056377	45,197	2,548	43,923	451,785	10.0
79–80	0.060849	42,649	2,595	41,351	407,861	9.6
80–81	0.066151	40,054	2,650	38,729	366,510	9.2
81–82	0.070182	37,404	2,625	36,092	327,781	8.8
82–83	0.075522	34,779	2,627	33,466	291,689	8.4
83–84	0.084907	32,153	2,730	30,788	258,223	8.0
84–85	0.079891	29,423	2,351	28,247	227,436	7.7
85–86	0.085633	27,072	2,318	25,913	199,188	7.4
86–87	0.091740	24,754	2,271	23,618	173,275	7.0
87–88	0.098228	22,483	2,208	21,379	149,657	6.7
88–89	0.105114	20,274	2,131	19,209	128,279	6.3
89–90	0.112413	18,143	2,040	17,123	109,070	6.0
90–91	0.120139	16,104	1,935	15,136	91,946	5.7
91–92	0.128307	14,169	1,818	13,260	76,810	5.4
92–93	0.136929	12,351	1,691	11,505	63,550	5.1
93–94	0.146018	10,660	1,557	9,882	52,044	4.9
94–95	0.155583	9,103	1,416	8,395	42,163	4.6
95–96	0.165632	7,687	1,273	7,050	33,768	4.4
96–97	0.176171	6,414	1,130	5,849	26,717	4.2
97–98	0.187204	5,284	989	4,789	20,868	3.9
98–99	0.198731	4,295	853	3,868	16,079	3.7
99–100	0.210751	3,441	725	3,079	12,211	3.5
100+	1.00000	2,716	2,716	9,133	9,133	3.4

Table 8. Life table for black males: United States, 2003

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.015565	100,000	1,557	98,616	6,901,792	69.0
1–2	0.000845	98,443	83	98,402	6,803,176	69.1
2–3	0.000530	98,360	52	98,334	6,704,774	68.2
3–4	0.000455	98,308	45	98,286	6,606,440	67.2
4–5	0.000299	98,263	29	98,249	6,508,154	66.2
5–6	0.000247	98,234	24	98,222	6,409,906	65.3
6–7	0.000209	98,210	21	98,199	6,311,684	64.3
7–8	0.000215	98,189	21	98,179	6,213,484	63.3
8–9	0.000225	98,168	22	98,157	6,115,306	62.3
9–10	0.000188	98,146	18	98,137	6,017,149	61.3
10–11	0.000287	98,128	28	98,113	5,919,012	60.3
11–12	0.000246	98,099	24	98,087	5,820,898	59.3
12–13	0.000295	98,075	29	98,061	5,722,811	58.4
13–14	0.000324	98,046	32	98,030	5,624,750	57.4
14–15	0.000422	98,015	41	97,994	5,526,720	56.4
15–16	0.000544	97,973	53	97,947	5,428,726	55.4
16–17	0.000903	97,920	88	97,876	5,330,779	54.4
17–18	0.001065	97,832	104	97,779	5,232,903	53.5
18–19	0.001670	97,727	163	97,646	5,135,124	52.5
19–20	0.001907	97,564	186	97,471	5,037,478	51.6
20–21	0.002127	97,378	207	97,275	4,940,007	50.7
21–22	0.001982	97,171	193	97,075	4,842,732	49.8
22–23	0.002236	96,978	217	96,870	4,745,658	48.9
23–24	0.002472	96,762	239	96,642	4,648,788	48.0
24–25	0.002417	96,522	233	96,406	4,552,146	47.2
25–26	0.002385	96,289	230	96,174	4,455,740	46.3
26–27	0.002633	96,059	253	95,933	4,359,566	45.4
27–28	0.002600	95,806	249	95,682	4,263,633	44.5
28–29	0.002325	95,557	222	95,446	4,167,951	43.6
29–30	0.002532	95,335	241	95,215	4,072,505	42.7
30–31	0.002470	95,094	235	94,976	3,977,290	41.8
31–32	0.002462	94,859	233	94,742	3,882,314	40.9
32–33	0.002746	94,625	260	94,496	3,787,572	40.0
33–34	0.002700	94,366	255	94,238	3,693,076	39.1
34–35	0.002724	94,111	256	93,983	3,598,838	38.2
35–36	0.003071	93,855	288	93,710	3,504,855	37.3
36–37	0.003242	93,566	303	93,415	3,411,145	36.5
37–38	0.003312	93,263	309	93,109	3,317,730	35.6
38–39	0.003644	92,954	339	92,785	3,224,622	34.7
39–40	0.003886	92,615	360	92,435	3,131,837	33.8
40–41	0.003963	92,255	366	92,073	3,039,401	32.9
41–42	0.004705	91,890	432	91,674	2,947,329	32.1
42–43	0.005239	91,458	479	91,218	2,855,655	31.2
43–44	0.005520	90,978	502	90,727	2,764,437	30.4
44–45	0.005887	90,476	533	90,210	2,673,710	29.6
45–46	0.006318	89,944	568	89,659	2,583,500	28.7
46–47	0.007485	89,375	669	89,041	2,493,841	27.9
47–48	0.007869	88,706	698	88,357	2,404,800	27.1
48–49	0.008889	88,008	782	87,617	2,316,442	26.3
49–50	0.009613	87,226	839	86,807	2,228,825	25.6
50–51	0.010723	86,387	926	85,924	2,142,019	24.8
51–52	0.011657	85,461	996	84,963	2,056,094	24.1
52–53	0.012618	84,465	1,066	83,932	1,971,131	23.3
53–54	0.012323	83,399	1,028	82,885	1,887,199	22.6
54–55	0.013947	82,372	1,149	81,797	1,804,314	21.9
55–56	0.015022	81,223	1,220	80,613	1,722,516	21.2
56–57	0.015829	80,003	1,266	79,369	1,641,904	20.5
57–58	0.015813	78,736	1,245	78,114	1,562,534	19.8
58–59	0.018379	77,491	1,424	76,779	1,484,421	19.2
59–60	0.019661	76,067	1,496	75,319	1,407,642	18.5
60–61	0.021845	74,571	1,629	73,757	1,332,323	17.9
61–62	0.022103	72,942	1,612	72,136	1,258,566	17.3
62–63	0.025362	71,330	1,809	70,426	1,186,429	16.6
63–64	0.024936	69,521	1,734	68,654	1,116,004	16.1
64–65	0.027941	67,787	1,894	66,840	1,047,350	15.5

Table 8. Life table for black males: United States, 2003—Con.

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
65–66	0.029100	65,893	1,917	64,935	980,509	14.9
66–67	0.029706	63,976	1,900	63,026	915,575	14.3
67–68	0.032779	62,075	2,035	61,058	852,549	13.7
68–69	0.034260	60,041	2,057	59,012	791,491	13.2
69–70	0.039357	57,984	2,282	56,843	732,479	12.6
70–71	0.039731	55,702	2,213	54,595	675,636	12.1
71–72	0.044701	53,489	2,391	52,293	621,041	11.6
72–73	0.048649	51,098	2,486	49,855	568,748	11.1
73–74	0.051472	48,612	2,502	47,361	518,893	10.7
74–75	0.054279	46,110	2,503	44,858	471,532	10.2
75–76	0.058834	43,607	2,566	42,324	426,674	9.8
76–77	0.064356	41,041	2,641	39,721	384,350	9.4
77–78	0.068245	38,400	2,621	37,090	344,629	9.0
78–79	0.072459	35,779	2,593	34,483	307,539	8.6
79–80	0.076324	33,187	2,533	31,920	273,056	8.2
80–81	0.084924	30,654	2,603	29,352	241,136	7.9
81–82	0.089866	28,051	2,521	26,790	211,783	7.6
82–83	0.093623	25,530	2,390	24,335	184,993	7.2
83–84	0.107130	23,140	2,479	21,900	160,658	6.9
84–85	0.097914	20,661	2,023	19,649	138,758	6.7
85–86	0.104606	18,638	1,950	17,663	119,109	6.4
86–87	0.111689	16,688	1,864	15,756	101,446	6.1
87–88	0.119176	14,824	1,767	13,941	85,690	5.8
88–89	0.127078	13,058	1,659	12,228	71,749	5.5
89–90	0.135409	11,398	1,543	10,627	59,521	5.2
90–91	0.144178	9,855	1,421	9,144	48,894	5.0
91–92	0.153394	8,434	1,294	7,787	39,750	4.7
92–93	0.163065	7,140	1,164	6,558	31,963	4.5
93–94	0.173195	5,976	1,035	5,458	25,405	4.3
94–95	0.183788	4,941	908	4,487	19,946	4.0
95–96	0.194845	4,033	786	3,640	15,459	3.8
96–97	0.206363	3,247	670	2,912	11,819	3.6
97–98	0.218337	2,577	563	2,296	8,907	3.5
98–99	0.230760	2,014	465	1,782	6,612	3.3
99–100	0.243620	1,550	377	1,361	4,830	3.1
100+	1.00000	1,172	1,172	1,172	3,469	3.0

Table 9. Life table for black females: United States, 2003

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
0–1	0.012449	100,000	1,245	98,896	7,608,447	76.1
1–2	0.000597	98,755	59	98,726	7,509,551	76.0
2–3	0.000446	98,696	44	98,674	7,410,826	75.1
3–4	0.000336	98,652	33	98,636	7,312,152	74.1
4–5	0.000190	98,619	19	98,610	7,213,516	73.1
5–6	0.000208	98,600	20	98,590	7,114,906	72.2
6–7	0.000202	98,580	20	98,570	7,016,317	71.2
7–8	0.000169	98,560	17	98,551	6,917,747	70.2
8–9	0.000164	98,543	16	98,535	6,819,195	69.2
9–10	0.000149	98,527	15	98,520	6,720,660	68.2
10–11	0.000203	98,512	20	98,502	6,622,141	67.2
11–12	0.000214	98,492	21	98,482	6,523,638	66.2
12–13	0.000189	98,471	19	98,462	6,425,157	65.2
13–14	0.000199	98,453	20	98,443	6,326,695	64.3
14–15	0.000187	98,433	18	98,424	6,228,252	63.3
15–16	0.000235	98,415	23	98,403	6,129,828	62.3
16–17	0.000284	98,391	28	98,378	6,031,425	61.3
17–18	0.000369	98,364	36	98,345	5,933,048	60.3
18–19	0.000509	98,327	50	98,302	5,834,702	59.3
19–20	0.000504	98,277	50	98,253	5,736,400	58.4
20–21	0.000727	98,228	71	98,192	5,638,147	57.4
21–22	0.000630	98,156	62	98,125	5,539,955	56.4
22–23	0.000714	98,095	70	98,060	5,441,830	55.5
23–24	0.000722	98,025	71	97,989	5,343,770	54.5
24–25	0.000737	97,954	72	97,918	5,245,781	53.6
25–26	0.000718	97,882	70	97,846	5,147,864	52.6
26–27	0.000937	97,811	92	97,765	5,050,017	51.6
27–28	0.001023	97,720	100	97,670	4,952,252	50.7
28–29	0.000854	97,620	83	97,578	4,854,582	49.7
29–30	0.001160	97,536	113	97,480	4,757,004	48.8
30–31	0.001139	97,423	111	97,368	4,659,525	47.8
31–32	0.001126	97,312	110	97,257	4,562,157	46.9
32–33	0.001279	97,202	124	97,140	4,464,900	45.9
33–34	0.001422	97,078	138	97,009	4,367,759	45.0
34–35	0.001647	96,940	160	96,860	4,270,750	44.1
35–36	0.001844	96,781	178	96,691	4,173,890	43.1
36–37	0.001986	96,602	192	96,506	4,077,199	42.2
37–38	0.002109	96,410	203	96,309	3,980,692	41.3
38–39	0.002202	96,207	212	96,101	3,884,384	40.4
39–40	0.002460	95,995	236	95,877	3,788,283	39.5
40–41	0.002871	95,759	275	95,621	3,692,406	38.6
41–42	0.002973	95,484	284	95,342	3,596,784	37.7
42–43	0.003223	95,200	307	95,047	3,501,442	36.8
43–44	0.003238	94,893	307	94,740	3,406,396	35.9
44–45	0.003945	94,586	373	94,399	3,311,656	35.0
45–46	0.004126	94,213	389	94,019	3,217,256	34.1
46–47	0.004746	93,824	445	93,602	3,123,238	33.3
47–48	0.004806	93,379	449	93,155	3,029,636	32.4
48–49	0.005202	92,930	483	92,688	2,936,482	31.6
49–50	0.005496	92,447	508	92,193	2,843,793	30.8
50–51	0.005977	91,939	550	91,664	2,751,601	29.9
51–52	0.006623	91,389	605	91,086	2,659,937	29.1
52–53	0.007056	90,784	641	90,464	2,568,850	28.3
53–54	0.007116	90,143	641	89,823	2,478,387	27.5
54–55	0.008122	89,502	727	89,138	2,388,564	26.7
55–56	0.008437	88,775	749	88,400	2,299,426	25.9
56–57	0.009196	88,026	809	87,621	2,211,025	25.1
57–58	0.009350	87,216	815	86,809	2,123,404	24.3
58–59	0.010629	86,401	918	85,942	2,036,595	23.6
59–60	0.011240	85,483	961	85,002	1,950,653	22.8
60–61	0.012912	84,522	1,091	83,976	1,865,651	22.1
61–62	0.012959	83,430	1,081	82,890	1,781,675	21.4
62–63	0.014712	82,349	1,212	81,744	1,698,785	20.6
63–64	0.015222	81,138	1,235	80,520	1,617,042	19.9
64–65	0.016615	79,903	1,328	79,239	1,536,521	19.2

Table 9. Life table for black females: United States, 2003—Con.

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	$q(x)$	$l(x)$	$d(x)$	$L(x)$	$T(x)$	$e(x)$
65–66	0.017992	78,575	1,414	77,868	1,457,283	18.5
66–67	0.018496	77,161	1,427	76,448	1,379,414	17.9
67–68	0.021004	75,734	1,591	74,939	1,302,966	17.2
68–69	0.021088	74,144	1,564	73,362	1,228,027	16.6
69–70	0.023169	72,580	1,682	71,739	1,154,666	15.9
70–71	0.025680	70,898	1,821	69,988	1,082,926	15.3
71–72	0.027320	69,078	1,887	68,134	1,012,938	14.7
72–73	0.029868	67,191	2,007	66,187	944,804	14.1
73–74	0.032354	65,184	2,109	64,129	878,617	13.5
74–75	0.034390	63,075	2,169	61,990	814,488	12.9
75–76	0.037180	60,906	2,264	59,773	752,497	12.4
76–77	0.040791	58,641	2,392	57,445	692,724	11.8
77–78	0.044860	56,249	2,523	54,987	635,279	11.3
78–79	0.046910	53,726	2,520	52,466	580,291	10.8
79–80	0.051881	51,206	2,657	49,877	527,826	10.3
80–81	0.055483	48,549	2,694	47,202	477,949	9.8
81–82	0.059399	45,855	2,724	44,493	430,746	9.4
82–83	0.065966	43,132	2,845	41,709	386,253	9.0
83–84	0.073760	40,286	2,972	38,801	344,544	8.6
84–85	0.070860	37,315	2,644	35,993	305,744	8.2
85–86	0.076476	34,671	2,651	33,345	269,751	7.8
86–87	0.082494	32,019	2,641	30,698	236,406	7.4
87–88	0.088932	29,378	2,613	28,071	205,708	7.0
88–89	0.095813	26,765	2,564	25,483	177,636	6.6
89–90	0.103157	24,201	2,496	22,952	152,153	6.3
90–91	0.110985	21,704	2,409	20,500	129,201	6.0
91–92	0.119316	19,295	2,302	18,144	108,701	5.6
92–93	0.128169	16,993	2,178	15,904	90,556	5.3
93–94	0.137561	14,815	2,038	13,796	74,652	5.0
94–95	0.147506	12,777	1,885	11,835	60,856	4.8
95–96	0.158019	10,892	1,721	10,032	49,021	4.5
96–97	0.169109	9,171	1,551	8,396	38,989	4.3
97–98	0.180783	7,620	1,378	6,931	30,594	4.0
98–99	0.193046	6,243	1,205	5,640	23,662	3.8
99–100	0.205897	5,038	1,037	4,519	18,022	3.6
100+	1.00000	4,000	4,000	13,503	13,503	3.4

Table 10. Survivorship by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2003

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Age, race, and sex	Number of survivors out of 100,000 born alive (I_x)										
	2003	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
All races											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,313	99,064	98,740	97,998	97,407	97,024	95,290	94,028	92,515	88,538	87,552
5	99,189	98,877	98,495	97,668	96,998	96,482	94,220	91,978	83,389	83,887	81,804
10	99,116	98,766	98,347	97,460	96,765	96,177	93,710	91,106	88,129	82,458	80,052
15	99,022	98,635	98,196	97,261	96,551	95,885	93,235	90,385	87,144	81,506	78,963
20	98,693	98,215	97,741	96,716	96,111	95,366	92,435	89,089	85,441	80,074	77,239
25	98,219	97,671	97,110	96,000	95,517	94,676	91,335	87,269	83,146	78,046	74,768
30	97,752	97,070	96,477	95,307	94,905	93,919	90,078	85,302	80,642	75,779	72,043
35	97,210	96,322	95,808	94,482	94,144	92,976	88,573	83,118	77,961	73,127	69,078
40	96,444	95,373	94,926	93,322	93,064	91,648	86,650	80,557	75,114	70,042	65,890
45	95,287	94,154	93,599	91,587	91,378	89,634	84,069	77,343	72,036	66,561	62,436
50	93,585	92,370	91,526	88,972	88,756	86,591	80,487	73,321	68,429	62,460	58,514
55	91,185	89,658	88,348	85,110	84,711	82,176	75,557	68,182	63,947	57,555	53,852
60	87,760	85,537	83,726	79,529	79,067	75,921	68,924	61,563	58,079	51,138	47,946
65	82,668	79,519	77,107	71,933	71,147	67,555	60,366	53,195	50,560	43,194	40,911
70	75,535	71,357	68,248	61,984	60,857	56,987	49,655	42,768	41,090	33,816	32,390
75	65,710	60,449	56,799	49,705	48,170	43,903	36,735	30,789	29,729	23,552	22,960
80	52,741	47,084	43,180	35,285	33,576	29,313	22,883	18,580	18,298	13,712	13,529
85	36,988	31,770	27,960	20,908	18,542	15,785	11,073	8,542	8,683	6,001	6,053
90	21,340	17,046	14,154	9,297	7,080	6,144	3,796	2,998	2,941	1,868	1,867
95	8,977	6,282	5,043	2,786	1,524	1,511	857	636	646	361	344
100	2,363	1,424	1,150	542	183	199	123	62	67	40	31
Male											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,239	98,961	98,607	97,755	97,087	96,661	94,762	93,440	91,745	87,505	86,426
5	99,100	98,754	98,333	97,395	96,643	96,077	93,624	91,294	88,505	82,718	80,548
10	99,020	98,627	98,160	97,151	96,375	95,726	93,054	90,346	87,184	81,249	78,775
15	98,906	98,464	97,972	96,904	96,107	95,366	92,508	89,561	86,156	80,261	77,681
20	98,450	97,854	97,316	96,126	95,491	94,695	91,617	88,220	84,440	78,792	75,984
25	97,762	97,049	96,361	95,040	94,631	93,791	90,385	86,359	82,252	76,675	73,472
30	97,112	96,166	95,430	94,072	93,826	92,861	89,009	84,346	79,890	74,378	70,747
35	96,392	95,091	94,501	92,997	92,889	91,760	87,371	82,075	77,514	71,614	67,752
40	95,424	93,761	93,345	91,541	91,572	90,207	85,246	79,357	74,432	68,297	64,447
45	93,984	92,139	91,649	89,369	89,492	87,819	82,336	75,882	71,244	64,518	60,849
50	91,848	89,865	89,007	86,070	86,199	84,158	78,254	71,518	67,553	60,118	56,736
55	88,851	86,492	84,936	81,139	81,039	78,781	72,627	65,981	62,965	54,970	51,939
60	84,710	81,378	79,012	73,958	73,887	71,246	65,142	58,909	56,917	48,343	45,895
65	78,674	73,971	70,646	64,318	64,177	61,566	55,776	50,154	49,218	40,264	38,736
70	70,359	64,107	59,681	52,296	52,244	49,950	44,588	39,516	39,668	31,023	30,217
75	59,223	51,385	46,272	38,797	38,950	36,756	31,864	27,718	28,316	21,213	21,076
80	45,076	36,749	31,810	24,921	25,300	25,237	18,995	16,172	17,128	11,942	12,084
85	29,190	21,815	18,020	13,168	12,845	11,750	8,693	7,107	7,920	5,059	5,179
90	15,073	9,878	7,732	5,107	4,609	4,197	2,787	2,283	2,527	1,502	1,508
95	5,414	2,927	2,279	1,326	970	955	586	451	556	289	262
100	1,150	529	423	222	117	121	78	40	62	33	22
Female											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,392	99,172	98,880	98,254	97,744	97,406	95,848	94,728	93,383	89,623	88,733
5	99,282	99,006	98,666	97,955	97,371	96,908	94,848	92,789	90,380	85,117	83,119
10	99,217	98,911	98,544	97,784	97,173	96,652	94,402	92,008	89,186	83,728	81,390
15	99,143	98,814	98,432	97,636	97,016	96,431	94,000	91,364	88,247	82,813	80,307
20	98,950	98,597	98,184	97,331	96,756	96,066	93,293	90,116	86,556	81,418	78,555
25	98,704	98,325	97,883	96,966	96,418	95,583	92,322	88,328	84,135	79,481	76,119
30	98,430	98,013	97,551	96,544	95,996	94,933	91,182	86,398	81,463	77,247	73,394
35	98,073	97,596	97,140	95,966	95,409	94,206	89,810	84,304	78,713	74,719	70,463
40	97,512	97,033	96,531	95,097	94,560	93,101	88,092	81,927	75,907	71,894	67,407
45	96,642	96,222	95,570	93,793	93,265	91,469	85,856	79,041	72,954	68,755	64,121
50	95,375	94,932	94,060	91,852	91,327	89,075	82,828	75,456	69,452	65,001	60,415
55	93,569	92,881	91,760	89,066	88,451	85,694	78,708	70,832	65,099	60,392	55,908

See footnotes at end of table.

Table 10. Survivorship by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2003—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Age, race, and sex	Number of survivors out of 100,000 born alive (l _x)										
	2003	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
Female—Con.											
60	90,858	89,742	88,414	85,139	84,430	80,890	73,093	64,795	59,438	54,226	50,155
65	86,692	85,075	83,520	79,698	78,462	74,119	65,523	56,924	52,126	46,438	43,246
70	80,693	78,522	76,720	71,955	70,100	64,873	55,449	46,774	42,741	36,916	34,721
75	72,070	69,287	67,186	61,107	58,394	52,111	42,425	34,600	31,344	26,155	24,994
80	60,059	56,986	54,372	46,445	43,063	36,486	27,524	21,578	19,613	15,682	15,129
85	44,201	41,115	37,772	29,538	25,269	20,668	13,972	10,322	9,515	7,051	7,063
90	26,939	23,666	20,578	14,160	10,056	8,548	5,044	3,656	3,314	2,269	2,306
95	12,005	9,346	7,862	4,565	2,193	2,207	1,195	807	728	441	452
100	3,306	2,251	1,927	954	264	298	179	82	72	49	43
White											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,428	99,233	98,898	98,224	97,714	97,278	95,685	94,392	92,780	88,709	87,762
5	99,315	99,068	98,675	97,930	97,353	96,790	94,713	92,466	89,771	84,147	82,071
10	99,246	98,966	98,536	97,733	97,131	96,502	94,228	91,627	88,536	82,734	80,371
15	99,158	98,843	98,391	97,546	96,928	96,228	93,792	90,982	87,633	81,816	79,344
20	98,838	98,455	97,939	97,036	96,508	95,763	93,117	89,933	86,159	80,407	77,998
25	98,397	97,972	97,340	96,406	95,965	95,169	92,213	88,454	84,106	78,392	75,202
30	97,974	97,451	96,774	95,824	95,440	94,536	91,185	86,836	81,787	76,167	72,317
35	97,478	96,810	96,192	95,152	94,798	93,750	89,941	85,004	79,277	73,568	69,522
40	96,775	96,000	95,427	94,190	93,870	92,616	88,318	82,803	76,642	70,525	66,082
45	95,704	94,932	94,257	92,681	92,374	90,847	86,069	79,989	73,705	67,090	62,920
50	94,136	93,326	92,384	90,306	89,958	88,110	82,833	76,340	70,250	62,994	58,647
55	91,921	90,833	89,427	86,688	86,173	84,027	78,218	71,551	65,875	58,163	54,450
60	88,670	86,943	85,031	81,323	80,811	78,066	71,785	65,100	60,013	51,822	48,288
65	83,755	81,123	78,585	73,889	73,102	69,850	63,201	56,655	52,411	43,904	41,505
70	76,738	73,106	69,801	63,991	62,834	59,189	52,165	45,841	42,736	34,484	32,902
75	66,929	62,175	58,299	51,586	49,895	45,688	38,610	33,406	31,086	24,151	23,356
80	53,816	48,583	44,409	36,659	34,697	30,438	23,976	20,260	19,149	14,100	13,794
85	37,707	32,850	28,768	21,578	19,017	16,239	11,483	9,325	9,078	6,178	6,192
90	21,564	17,571	14,471	9,433	7,149	6,201	3,819	3,066	2,991	1,918	1,919
95	8,864	6,416	5,067	2,743	1,521	1,500	801	636	643	364	355
100	2,224	1,423	1,105	487	183	196	98	58	62	38	31
White male											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,363	99,138	98,769	97,994	97,408	96,931	95,188	93,768	91,975	87,674	86,655
5	99,239	98,956	98,519	97,671	97,015	96,403	94,150	91,738	88,842	82,972	80,864
10	99,163	98,839	98,357	97,441	96,758	96,069	93,601	90,810	87,530	81,519	79,109
15	99,057	98,686	98,176	97,208	96,503	95,728	93,089	90,074	86,546	80,549	78,037
20	98,621	98,134	97,525	96,480	95,908	95,104	92,293	88,904	84,997	79,116	76,376
25	97,987	97,430	96,616	95,524	95,106	94,294	91,241	87,371	83,061	77,047	73,907
30	97,400	96,662	95,783	94,716	94,401	93,489	90,092	85,707	80,888	74,810	71,219
35	96,736	95,731	94,980	93,843	93,589	92,543	88,713	83,812	78,441	72,108	68,245
40	95,837	94,588	93,984	92,631	92,427	91,173	86,880	81,457	75,733	68,848	64,954
45	94,486	93,167	92,494	90,725	90,533	89,002	84,285	78,345	72,696	65,115	61,369
50	92,500	91,124	90,105	87,690	87,424	85,601	80,521	74,288	69,107	60,741	57,274
55	89,725	88,022	86,303	83,001	82,463	80,496	75,156	68,981	64,574	55,622	52,491
60	85,795	83,182	80,625	75,969	75,485	73,172	67,787	61,933	58,498	48,987	46,452
65	79,967	75,962	72,393	66,343	65,834	63,541	58,305	52,964	50,663	40,862	39,245
70	71,770	66,181	61,384	54,138	53,825	51,735	46,739	41,880	40,873	31,527	30,640
75	60,628	53,308	47,712	40,324	40,207	38,104	33,404	29,471	29,205	21,585	21,387
80	46,265	38,245	32,788	25,885	25,993	24,005	19,860	17,221	17,655	12,160	12,266
85	29,938	22,720	18,538	13,527	13,065	12,015	9,013	7,572	8,154	5,145	5,252
90	15,293	10,214	7,891	5,125	4,600	4,209	2,812	2,356	2,568	1,523	1,523
95	5,340	2,988	2,279	1,274	956	942	552	461	556	289	263
100	1,071	523	404	189	115	118	65	40	61	31	22

See footnotes at end of table.

Table 10. Survivorship by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2003—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Age, race, and sex	Number of survivors out of 100,000 born alive (I_x)										
	2003	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
White female											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,495	99,333	99,035	98,468	98,036	97,645	96,211	95,037	93,608	89,774	88,939
5	99,394	99,187	98,841	98,203	97,709	97,199	95,309	93,216	90,721	85,349	83,426
10	99,334	99,099	98,725	98,042	97,525	96,960	94,890	92,466	89,564	83,979	81,723
15	99,265	99,007	98,618	97,902	97,375	96,756	94,534	91,894	88,712	83,093	80,680
20	99,068	98,795	98,374	97,618	97,135	96,454	93,984	90,939	87,281	81,750	78,978
25	98,837	98,547	98,093	97,299	96,844	96,072	93,228	89,524	85,163	79,865	76,588
30	98,590	98,283	97,802	96,945	96,499	95,605	92,320	87,972	82,740	77,676	73,887
35	98,271	97,939	97,445	96,474	96,026	94,977	91,211	86,248	80,206	75,200	70,971
40	97,773	97,472	96,913	95,762	95,326	94,080	89,805	84,256	77,624	72,425	67,935
45	96,991	96,768	96,065	94,649	94,228	92,725	87,920	81,780	74,871	69,341	64,677
50	95,851	95,608	94,710	92,924	92,522	90,685	85,267	78,572	71,547	65,629	61,005
55	94,206	93,730	92,594	90,383	89,967	87,699	81,520	74,321	67,323	61,053	56,509
60	91,642	90,789	89,451	86,726	86,339	83,279	76,200	68,462	61,704	54,900	50,752
65	87,633	86,339	84,764	81,579	80,739	76,773	68,701	60,499	54,299	47,086	43,806
70	81,764	79,984	78,139	74,101	72,507	67,545	58,363	49,932	44,638	37,482	35,206
75	73,195	70,834	68,712	63,290	60,461	54,397	44,685	37,024	32,777	26,569	25,362
80	61,105	58,454	55,770	48,182	44,676	38,026	28,882	23,053	20,492	15,929	15,349
85	44,940	42,274	38,774	30,490	26,046	21,348	14,487	10,937	9,909	7,152	7,149
90	27,176	24,270	20,996	14,406	10,219	8,662	5,061	3,719	3,372	2,291	2,322
95	11,847	9,495	7,900	4,526	2,203	2,200	1,109	797	721	434	448
100	3,110	2,239	1,858	872	265	294	139	74	63	44	41
Black ¹											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	98,597	98,187	97,885	96,731	95,732	95,407	92,584	92,035	90,379	79,784	76,609
5	98,414	97,884	97,522	96,207	95,051	94,482	90,983	89,303	86,174	70,691	66,222
10	98,317	97,720	97,322	95,928	94,745	94,060	90,339	88,258	84,690	68,437	63,410
15	98,190	97,539	97,134	95,661	94,460	93,646	89,591	87,156	83,180	66,410	61,060
20	97,795	96,925	96,652	94,887	93,880	92,738	87,839	84,386	79,641	63,165	57,931
25	97,077	95,972	95,804	93,513	92,925	91,321	85,210	80,320	74,973	59,608	54,512
30	96,261	94,809	94,680	91,934	91,699	89,584	82,194	75,962	70,492	56,112	51,287
35	95,332	93,260	93,288	89,977	90,046	87,402	78,683	71,141	65,865	52,125	48,007
40	94,034	91,239	91,439	87,304	87,766	84,478	74,466	65,974	61,244	47,866	44,518
45	92,122	88,689	88,834	83,700	84,501	80,507	69,284	59,827	56,442	43,054	40,628
50	89,236	85,285	85,044	78,938	80,172	74,976	62,702	53,141	51,422	37,800	36,103
55	85,120	80,635	79,816	72,826	73,893	67,660	54,846	45,558	45,803	32,233	31,404
60	79,726	74,335	72,913	65,250	65,795	58,593	46,318	37,654	39,418	26,046	25,698
65	72,488	66,154	64,391	56,102	56,038	48,649	37,838	30,015	32,738	19,806	20,474
70	63,618	56,192	54,617	45,785	45,434	38,616	29,654	22,505	25,585	14,021	14,960
75	52,653	44,872	43,274	34,262	34,531	28,968	21,798	15,546	18,011	9,139	9,956
80	40,054	33,149	31,711	23,710	24,815	20,003	14,408	9,589	11,376	5,158	5,750
85	27,072	21,352	19,939	15,044	15,337	12,433	8,326	4,900	5,794	2,414	2,782
90	16,104	11,646	10,713	8,087	7,195	6,394	4,077	2,044	2,317	913	1,054
95	7,687	4,729	4,463	3,252	1,777	2,010	1,557	638	689	324	296
100	2,716	1,376	1,360	1,036	214	301	399	120	129	77	57
Black male ¹											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	98,443	98,023	97,703	96,394	95,301	94,911	91,772	91,268	89,499	78,065	74,674
5	98,234	97,688	97,300	95,826	94,570	93,921	90,082	88,412	85,195	68,589	64,385
10	98,128	97,501	97,061	95,497	94,234	93,453	89,393	87,311	83,768	66,377	61,730
15	97,973	97,268	96,826	95,161	93,874	92,965	88,610	86,152	82,332	64,478	59,667
20	97,378	96,301	96,132	94,053	93,108	91,941	86,968	83,621	79,057	61,426	56,733
25	96,289	94,809	94,827	91,904	91,825	90,285	84,227	79,516	74,540	57,736	53,285
30	95,094	93,070	93,125	89,584	90,270	88,327	80,979	75,083	70,344	54,073	49,867
35	93,855	90,827	91,080	86,885	88,331	85,940	77,221	70,049	65,873	49,865	46,541
40	92,255	87,948	88,490	83,441	85,744	82,832	72,780	64,710	61,353	45,414	42,989
45	89,944	84,467	84,997	78,976	82,075	78,686	67,346	58,432	56,589	40,563	39,230
50	86,387	79,984	80,065	73,282	77,239	72,891	60,495	51,748	51,880	35,427	34,766
55	81,223	74,095	73,413	66,101	70,351	65,122	52,426	44,436	46,581	29,754	29,987

See footnotes at end of table.

Table 10. Survivorship by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2003—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Age, race, and sex	Number of survivors out of 100,000 born alive (I_x)										
	2003	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
Black male ¹ —Con.											
60	74,571	66,334	64,980	57,457	61,669	55,535	43,833	36,790	40,506	23,750	24,194
65	65,893	56,795	55,061	47,485	51,392	45,198	35,371	29,314	34,042	17,806	19,015
70	55,702	45,690	44,213	36,925	39,914	35,018	27,236	21,741	26,923	12,295	13,829
75	43,607	33,755	32,717	25,921	29,064	25,472	19,456	14,419	18,854	7,494	8,892
80	30,654	22,549	22,017	16,560	19,994	16,904	12,186	8,239	11,615	3,894	4,831
85	18,638	12,709	12,383	9,648	11,620	9,898	6,444	3,660	5,605	1,747	2,030
90	9,855	5,972	5,708	4,696	5,174	4,642	2,836	1,246	2,040	595	634
95	4,033	1,971	2,009	1,721	1,240	1,342	961	307	552	189	137
100	1,172	466	513	489	149	192	209	41	77	40	18
Black female ¹											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	98,755	98,356	98,073	97,076	96,172	95,913	93,416	92,796	91,251	81,493	78,525
5	98,600	98,087	97,751	96,598	95,543	95,055	91,906	90,185	87,149	72,768	68,056
10	98,512	97,946	97,590	96,369	95,265	94,679	91,308	89,201	85,607	70,508	65,111
15	98,415	97,818	97,450	96,172	95,057	94,343	90,594	88,088	83,954	68,218	62,384
20	98,228	97,566	97,180	95,729	94,660	93,544	88,736	85,078	80,154	64,764	59,053
25	97,882	97,140	96,754	95,035	94,005	92,336	86,198	81,067	75,359	61,430	55,795
30	97,423	96,514	96,150	94,114	93,070	90,799	83,384	76,816	70,633	58,281	52,773
35	96,781	95,599	95,338	92,807	91,670	88,805	80,092	72,192	65,857	54,595	49,567
40	95,759	94,364	94,137	90,817	89,676	86,052	76,084	67,271	61,130	50,568	46,146
45	94,213	92,676	92,322	88,001	86,793	82,257	71,157	61,365	56,230	45,947	42,279
50	91,939	90,277	89,563	84,168	82,979	77,007	64,885	54,920	50,780	40,886	37,681
55	88,775	86,793	85,653	79,177	77,362	70,196	57,314	47,074	44,742	35,415	33,124
60	84,522	81,886	80,293	72,820	69,941	61,758	48,928	38,761	37,954	28,908	27,524
65	78,575	75,031	73,266	64,716	60,825	52,358	40,504	30,852	31,044	22,302	21,995
70	70,898	66,278	64,729	54,873	51,274	42,612	32,354	23,341	24,107	15,871	16,140
75	60,906	55,684	53,831	43,193	40,540	32,981	24,502	16,576	17,216	10,657	11,066
80	48,549	43,622	41,686	31,756	30,315	23,712	17,039	10,822	11,151	6,324	6,708
85	34,671	30,089	28,004	21,358	19,744	15,550	10,622	6,033	5,972	3,029	3,567
90	21,704	17,536	16,260	12,210	9,675	8,590	5,652	2,774	2,579	1,206	1,492
95	10,892	7,687	7,312	5,217	2,438	2,875	2,345	941	818	448	462
100	4,000	2,364	2,398	1,803	293	445	659	193	179	112	97

¹For 1939–41 and 1949–51, data shown are for the entire nonwhite population. During these periods, life tables were not constructed for the black population. See "Technical Notes."

Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2003

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Age, race, and sex	Average number of years of life remaining (e_x)										
	2003	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
All races											
0	77.5	75.37	73.88	70.75	69.89	68.07	63.62	59.20	56.40	51.49	49.24
1	77.0	75.08	73.82	71.19	70.75	69.16	65.76	61.94	59.94	57.11	55.20
5	73.1	71.22	70.00	67.43	67.04	65.54	62.49	59.29	57.99	56.21	54.98
10	68.2	66.29	65.10	62.57	62.19	60.74	57.82	54.84	53.79	52.15	51.14
15	63.2	61.38	60.19	57.69	57.33	55.91	53.10	50.25	49.37	47.73	46.81
20	58.4	56.63	55.46	53.00	52.58	51.20	48.54	45.94	45.30	43.53	42.79
25	53.7	51.93	50.81	48.37	47.89	46.56	44.09	41.85	41.47	39.60	39.12
30	48.9	47.23	46.12	43.71	43.18	41.91	39.67	37.75	37.68	35.70	35.51
35	44.2	42.58	41.43	39.07	38.51	37.31	35.30	33.68	33.89	31.90	31.92
40	39.5	37.98	36.79	34.52	33.92	32.81	31.03	29.67	30.08	28.20	28.34
45	35.0	33.44	32.27	30.12	29.50	28.49	26.90	25.79	26.25	24.54	24.77
50	30.6	29.03	27.94	25.93	25.29	24.40	22.98	22.06	22.50	20.98	21.26
55	26.3	24.83	23.85	21.99	21.37	20.57	19.31	18.53	18.90	17.55	17.88
60	22.2	20.90	20.02	18.34	17.71	17.04	15.91	15.24	15.54	14.42	14.76
65	18.4	17.28	16.51	15.00	14.39	13.83	12.80	12.23	12.47	11.60	11.86
70	14.9	13.96	13.32	12.00	11.38	10.92	10.00	9.58	9.74	9.11	9.30
75	11.8	11.00	10.48	9.32	8.71	8.40	7.62	7.32	7.49	6.99	7.08
80	9.0	8.40	7.98	7.10	6.39	6.34	5.73	5.50	5.63	5.25	5.30
85	6.8	6.23	5.96	5.28	4.58	4.69	4.31	4.19	4.21	4.00	3.96
90	5.0	4.50	4.43	3.94	3.22	3.44	3.30	3.15	3.22	3.03	2.95
95	3.6	3.29	3.34	3.06	2.43	2.54	2.61	2.26	2.32	2.35	2.18
100	2.6	2.46	2.73	2.62	1.91	1.92	2.13	1.51	1.53	1.85	1.58
Male											
0	74.8	71.83	70.11	67.04	66.80	65.47	61.60	57.71	55.50	49.86	47.88
1	74.3	71.58	70.10	67.58	67.80	66.73	64.00	60.75	59.47	55.95	54.35
5	70.4	67.73	66.29	63.82	64.10	63.12	60.76	58.14	57.60	55.11	54.22
10	65.5	62.81	61.41	58.98	59.27	58.35	56.12	53.75	53.44	51.07	50.39
15	60.6	57.91	56.52	54.12	54.43	53.56	51.43	49.18	49.05	46.66	46.06
20	55.8	53.25	51.88	49.54	49.77	48.92	46.91	44.88	44.99	42.48	42.03
25	51.2	48.67	47.37	45.07	45.19	44.36	42.51	40.79	41.11	38.59	38.38
30	46.5	44.10	42.81	40.51	40.56	39.78	38.13	36.71	37.26	34.70	34.76
35	41.9	39.57	38.20	35.95	35.94	35.23	33.79	32.65	33.43	30.94	31.19
40	37.3	35.09	33.64	31.48	31.42	30.79	29.57	28.68	29.63	27.32	27.65
45	32.8	30.66	29.22	27.18	27.09	26.55	25.52	24.87	25.84	23.77	24.14
50	28.5	26.37	25.00	23.12	23.02	22.59	21.72	21.25	22.11	20.32	20.70
55	24.4	22.30	21.08	19.36	19.32	18.96	18.20	17.79	18.53	16.98	17.38
60	20.4	18.53	17.46	15.99	15.94	15.68	14.99	14.62	15.22	13.95	14.33
65	16.8	15.12	14.21	12.99	12.95	12.74	12.07	11.72	12.20	11.24	11.50
70	13.5	12.05	11.35	10.39	10.33	10.11	9.46	9.18	9.52	8.83	9.02
75	10.5	9.39	8.90	8.13	7.99	7.83	7.22	7.02	7.31	6.75	6.84
80	8.0	7.12	6.80	6.27	5.95	5.94	5.44	5.27	5.49	5.10	5.11
85	6.0	5.31	5.13	4.73	4.39	4.41	4.11	4.02	4.10	3.90	3.82
90	4.4	3.89	3.89	3.60	3.18	3.30	3.17	3.06	3.21	3.01	2.86
95	3.2	2.92	2.98	2.82	2.43	2.49	2.52	2.21	2.38	2.36	2.13
100	2.3	2.25	2.49	2.43	1.91	1.92	2.05	1.50	1.58	1.81	1.55
Female											
0	80.1	78.81	77.62	74.64	73.24	70.96	65.89	60.90	57.40	53.24	50.70
1	79.6	78.47	77.50	74.97	73.93	71.84	67.73	65.37	60.45	58.37	56.10
5	75.7	74.60	73.67	71.19	70.21	68.21	64.43	60.66	58.41	57.39	55.80
10	70.7	69.67	68.75	66.31	65.35	63.38	59.73	56.16	54.16	53.31	51.94
15	65.8	64.73	63.83	61.41	60.45	58.52	54.97	51.54	49.71	48.87	47.60
20	60.9	59.87	58.98	56.59	55.60	53.73	50.37	47.21	45.63	44.66	43.60
25	56.0	55.03	54.16	51.80	50.79	48.99	45.87	43.11	41.86	40.69	39.92
30	51.2	50.19	49.33	47.01	46.00	44.28	41.41	39.02	38.15	36.79	36.30
35	46.4	45.40	44.53	42.28	41.27	39.63	37.01	34.92	34.40	32.95	32.71
40	41.6	40.65	39.80	37.64	36.61	35.06	32.68	30.86	30.58	29.15	29.08
45	37.0	35.97	35.17	33.13	32.09	30.64	28.46	26.89	26.71	25.36	25.44
50	32.4	31.42	30.69	28.77	27.71	26.40	24.40	23.05	22.92	21.67	21.84
55	28.0	27.05	26.39	24.59	23.53	22.33	20.54	19.38	19.28	18.13	18.39

See footnotes at end of table.

Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2003—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Age, race, and sex	Average number of years of life remaining (e_x)										
	2003	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
Female—Con.											
60	23.8	22.90	22.29	20.60	19.52	18.50	16.92	15.94	15.87	14.90	15.21
65	19.8	19.02	18.44	16.83	15.80	14.95	13.57	12.78	12.73	11.96	12.22
70	16.0	15.38	14.84	13.35	12.37	11.71	10.56	9.99	9.96	9.38	9.59
75	12.6	12.08	11.58	10.26	9.33	8.94	8.01	7.61	7.65	7.20	7.34
80	9.6	9.13	8.69	7.68	6.72	6.67	5.99	5.70	5.75	5.37	5.51
85	7.2	6.66	6.38	5.63	4.71	4.90	4.47	4.32	4.30	4.08	4.12
90	5.2	4.73	4.66	4.14	3.25	3.54	3.39	3.24	3.23	3.05	3.04
95	3.7	3.40	3.48	3.18	2.43	2.57	2.67	2.30	2.27	2.34	2.24
100	2.6	2.52	2.81	2.69	1.91	1.93	2.17	1.52	1.48	1.91	1.61
White											
0	78.0	76.13	74.53	71.62	70.73	69.02	64.92	60.86	57.42	51.90	49.64
1	77.4	75.72	74.35	71.91	71.38	69.95	66.84	63.46	60.87	57.46	55.47
5	73.5	71.84	70.52	68.12	67.64	66.29	63.52	60.75	58.86	56.51	55.18
10	68.5	66.92	65.62	63.26	62.79	61.48	58.83	56.29	54.65	52.43	51.34
15	63.6	61.99	60.71	58.37	57.92	56.65	54.09	51.69	50.21	48.01	47.01
20	58.8	57.23	55.98	53.66	53.16	51.91	49.47	47.28	46.04	43.77	43.17
25	54.1	52.50	51.30	49.00	48.44	47.22	44.92	43.02	42.07	39.79	39.26
30	49.3	47.76	46.59	44.28	43.69	42.52	40.40	38.76	38.17	35.86	35.51
35	44.5	43.06	41.86	39.58	38.97	37.86	35.93	34.50	34.27	32.03	32.01
40	39.8	38.41	37.17	34.95	34.33	33.29	31.54	30.33	30.38	28.29	28.28
45	35.2	33.81	32.60	30.48	29.84	28.88	27.29	26.29	26.45	24.60	24.82
50	30.8	29.34	28.21	26.21	25.57	24.70	23.26	22.42	22.64	21.01	21.18
55	26.5	25.08	24.05	22.19	21.58	20.77	19.47	18.75	18.97	17.57	17.91
60	22.3	21.08	20.16	18.48	17.84	17.15	15.98	15.37	15.57	14.43	14.73
65	18.5	17.40	16.59	15.08	14.44	13.86	12.80	12.28	12.47	11.60	11.87
70	14.9	14.02	13.35	12.01	11.37	10.89	9.96	9.58	9.72	9.10	9.31
75	11.7	11.03	10.47	9.27	8.65	8.34	7.55	7.30	7.47	6.98	7.08
80	9.0	8.39	7.95	7.01	6.33	6.27	5.64	5.45	5.59	5.22	5.30
85	6.7	6.20	5.90	5.19	4.53	4.62	4.20	4.12	4.15	3.97	3.95
90	4.9	4.46	4.36	3.84	3.20	3.41	3.16	3.10	3.17	3.00	2.93
95	3.5	3.25	3.25	2.92	2.43	2.53	2.45	2.22	2.28	2.29	2.16
100	2.5	2.43	2.62	2.41	1.91	1.92	1.95	1.48	1.50	1.71	1.56
White male											
0	75.3	72.72	70.82	67.94	67.55	66.31	62.81	59.12	56.34	50.23	48.23
1	74.8	72.35	70.70	68.33	68.34	67.41	64.98	62.04	60.24	56.26	54.61
5	70.9	68.48	66.87	64.55	64.61	63.77	61.68	59.38	58.31	55.37	54.43
10	66.0	63.55	61.98	59.69	59.78	58.98	57.03	54.96	54.15	51.32	50.59
15	61.0	58.65	57.09	54.83	54.93	54.18	52.33	50.39	49.74	46.91	46.25
20	56.3	53.96	52.45	50.22	50.25	49.52	47.76	46.02	45.60	42.71	42.19
25	51.6	49.33	47.92	45.70	45.65	44.93	43.28	41.78	41.60	38.79	38.52
30	46.9	44.71	43.31	41.07	40.97	40.29	38.80	37.54	37.65	34.87	34.88
35	42.2	40.12	38.66	36.43	36.31	35.68	34.36	33.33	33.74	31.08	31.29
40	37.6	35.57	34.04	31.87	31.73	31.17	30.03	29.22	29.86	27.43	27.74
45	33.1	31.07	29.55	27.48	27.34	26.87	25.87	25.28	26.00	23.86	24.21
50	28.8	26.71	25.26	23.34	23.22	22.83	21.96	21.51	22.22	20.39	20.76
55	24.6	22.56	21.25	19.51	19.45	19.11	18.34	17.97	18.59	17.03	17.42
60	20.6	18.71	17.56	16.07	16.01	15.76	15.05	14.72	15.25	13.98	14.35
65	16.9	15.24	14.26	13.02	12.97	12.75	12.07	11.77	12.21	11.25	11.51
70	13.5	12.11	11.35	10.38	10.29	10.07	9.42	9.20	9.51	8.83	9.03
75	10.5	9.40	8.87	8.06	7.92	7.77	7.17	7.02	7.30	6.75	6.84
80	8.0	7.11	6.76	6.18	5.89	5.88	5.38	5.26	5.47	5.09	5.10
85	5.9	5.28	5.09	4.63	4.34	4.35	4.02	3.99	4.06	3.88	3.81
90	4.3	3.85	3.83	3.49	3.16	3.27	3.06	3.03	3.18	2.99	2.85
95	3.1	2.88	2.91	2.67	2.43	2.48	2.40	2.19	2.36	2.31	2.12
100	2.2	2.21	2.41	2.20	1.91	1.92	1.96	1.49	1.58	1.68	1.55

See footnotes at end of table.

Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2003—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Age, race, and sex	Average number of years of life remaining (e_x)										
	2003	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
White female											
0	80.5	79.45	78.22	75.49	74.19	72.03	67.29	62.67	58.53	53.62	51.08
1	79.9	78.99	77.98	75.66	74.68	72.77	68.93	64.93	61.51	58.69	56.39
5	76.0	75.10	74.13	71.86	70.92	69.09	65.57	62.17	59.43	57.67	56.03
10	71.0	70.16	69.21	66.97	66.05	64.26	60.85	57.65	55.17	53.57	52.15
15	66.1	65.23	64.29	62.07	61.15	59.39	56.07	53.00	50.67	49.12	47.79
20	61.2	60.36	59.44	57.24	56.29	54.56	51.38	48.52	46.46	44.88	43.77
25	56.3	55.51	54.60	52.42	51.45	49.77	46.78	44.25	42.55	40.88	40.05
30	51.5	50.65	49.76	47.60	46.63	45.00	42.21	39.99	38.72	36.96	36.42
35	46.6	45.82	44.93	42.82	41.84	40.28	37.70	35.73	34.86	33.09	32.82
40	41.9	41.03	40.16	38.12	37.13	35.64	33.25	31.52	30.94	29.26	29.17
45	37.2	36.30	35.49	33.54	32.53	31.12	28.90	27.39	26.98	25.45	25.51
50	32.6	31.71	30.96	29.11	28.08	26.76	24.72	23.41	23.12	21.74	21.89
55	28.1	27.29	26.61	24.85	23.81	22.58	20.73	19.60	19.40	18.18	18.43
60	23.8	23.09	22.45	20.79	19.69	18.64	17.00	16.05	15.93	14.92	15.23
65	19.8	19.14	18.55	16.93	15.88	15.00	13.56	12.81	12.75	11.97	12.23
70	16.0	15.46	14.89	13.37	12.38	11.68	10.50	9.98	9.94	9.38	9.59
75	12.6	12.11	11.58	10.21	9.28	8.87	7.92	7.56	7.62	7.20	7.33
80	9.6	9.12	8.65	7.59	6.67	6.59	5.88	5.63	5.70	5.35	5.50
85	7.1	6.62	6.32	5.54	4.66	4.83	4.34	4.24	4.24	4.06	4.10
90	5.1	4.69	4.59	4.05	3.23	3.51	3.24	3.17	3.16	3.00	3.02
95	3.6	3.36	3.39	3.04	2.43	2.56	2.47	2.24	2.20	2.27	2.21
100	2.5	2.49	2.70	2.49	1.91	1.92	1.95	1.48	1.42	1.74	1.58
Black ¹											
0	72.7	69.16	68.52	64.11	63.91	60.73	53.85	48.53	47.03	35.87	33.80
1	72.7	69.43	68.99	65.27	65.75	62.65	57.15	51.71	51.01	43.84	43.00
5	68.9	65.64	65.25	61.62	62.21	59.25	54.13	49.25	49.44	45.34	45.55
10	63.9	60.75	60.38	56.79	57.41	54.50	49.50	44.80	45.26	41.74	42.46
15	59.0	55.86	55.49	51.94	52.57	49.73	44.89	40.37	41.02	38.02	39.04
20	54.2	51.19	50.75	47.34	47.88	45.19	40.73	36.62	37.72	34.86	36.03
25	49.6	46.67	46.18	43.00	43.35	40.85	36.91	33.32	34.91	31.72	33.04
30	45.0	42.22	41.69	38.70	38.89	36.59	33.17	30.07	31.98	28.43	29.96
35	40.4	37.87	37.28	34.48	34.56	32.44	29.53	26.94	29.07	25.39	26.82
40	36.0	33.65	32.98	30.46	30.39	28.48	26.06	23.82	26.07	22.41	23.73
45	31.6	29.55	28.87	26.65	26.46	24.75	22.82	20.97	23.17	19.58	20.67
50	27.6	25.62	25.03	23.11	22.74	21.38	19.94	18.22	20.17	16.84	17.95
55	23.8	21.95	21.50	19.83	19.45	18.41	17.43	15.80	17.33	14.33	15.23
60	20.2	18.59	18.29	16.83	16.53	15.87	15.18	13.62	14.72	12.16	13.06
65	17.0	15.56	15.37	14.16	13.96	13.59	13.02	11.49	12.22	10.22	10.87
70	14.0	12.87	12.67	11.77	11.63	11.48	10.93	9.54	9.90	8.59	8.96
75	11.4	10.48	10.32	9.89	9.52	9.48	8.97	7.84	8.00	7.08	7.24
80	9.2	8.30	8.17	8.20	7.28	7.62	7.31	6.19	6.22	5.80	5.79
85	7.4	6.51	6.54	6.54	5.27	5.79	5.91	4.92	4.88	4.80	4.56
90	5.7	4.94	5.13	5.09	3.48	3.97	4.64	3.83	3.84	4.26	3.60
95	4.4	3.82	4.08	4.28	2.43	2.70	3.51	2.83	2.90	3.31	2.82
100	3.4	2.91	3.58	3.93	1.91	1.94	2.57	1.87	1.94	2.27	2.18
Black male ¹											
0	69.0	64.47	64.10	60.00	61.48	58.91	52.26	47.55	47.14	34.05	32.54
1	69.1	64.76	64.60	61.24	63.50	61.06	55.93	51.08	51.63	42.53	42.46
5	65.3	60.98	60.86	57.60	59.98	57.69	52.95	48.69	50.18	44.25	45.06
10	60.3	56.09	56.01	52.79	55.19	52.96	48.34	44.27	45.99	40.65	41.90
15	55.4	51.22	51.14	47.96	50.39	48.23	43.74	39.83	41.75	36.77	38.26
20	50.7	46.71	46.48	43.49	45.78	43.73	39.52	35.95	38.36	33.46	35.11
25	46.3	42.40	42.09	39.45	41.38	39.49	35.72	32.67	35.54	30.44	32.21
30	41.8	38.14	37.81	35.40	37.05	35.31	32.05	29.45	32.51	27.33	29.25
35	37.3	34.02	33.60	31.42	32.81	31.21	28.48	26.39	29.54	24.42	26.16
40	32.9	30.05	29.51	27.61	28.72	27.29	25.06	23.36	26.53	21.57	23.12
45	28.7	26.18	25.61	24.03	24.89	23.59	21.88	20.59	23.55	18.85	20.09
50	24.8	22.50	22.03	20.69	21.28	20.25	19.06	17.92	20.47	16.21	17.34
55	21.2	19.08	18.79	17.66	18.11	17.36	16.60	15.46	17.50	13.82	14.69

See footnotes at end of table.

Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2003—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Age, race, and sex	Average number of years of life remaining (e_x)										
	2003	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
Black male ¹ —Con.											
60	17.9	16.01	15.89	14.93	15.29	14.91	14.37	13.15	14.74	11.67	12.62
65	14.9	13.27	13.29	12.53	12.84	12.75	12.21	10.87	12.07	9.74	10.38
70	12.1	10.88	10.94	10.40	10.81	10.74	10.11	8.78	9.58	8.00	8.33
75	9.8	8.84	8.90	8.76	8.93	8.83	8.17	6.99	7.61	6.58	6.60
80	7.9	7.01	7.03	7.35	6.87	7.07	6.58	5.42	5.83	5.53	5.12
85	6.4	5.58	5.61	5.92	5.08	5.38	5.34	4.30	4.53	4.48	4.04
90	5.0	4.24	4.47	4.68	3.42	3.78	4.23	3.42	3.60	4.01	3.21
95	3.8	3.37	3.62	3.92	2.43	2.64	3.20	2.54	2.61	3.15	2.50
100	3.0	2.63	3.24	3.61	1.91	1.93	2.29	1.68	1.64	2.14	1.89
Black female ¹											
0	76.1	73.73	72.88	68.32	66.47	62.70	55.56	49.51	46.92	37.67	35.04
1	76.0	73.96	73.31	69.37	68.10	64.37	58.46	52.33	50.39	45.15	43.54
5	72.2	70.16	69.54	65.70	64.54	60.93	55.40	49.81	48.70	46.42	46.04
10	67.2	65.26	64.65	60.85	59.72	56.17	50.75	45.33	44.54	42.84	43.02
15	62.3	60.34	59.74	55.97	54.85	51.36	46.13	40.87	40.36	39.18	39.79
20	57.4	55.49	54.90	51.22	50.07	46.77	42.04	37.22	37.15	36.14	36.89
25	52.6	50.72	50.13	46.57	45.40	42.35	38.20	33.93	34.35	32.97	33.90
30	47.8	46.03	45.43	42.00	40.83	38.02	34.40	30.67	31.48	29.61	30.70
35	43.1	41.45	40.79	37.56	36.41	33.82	30.83	27.47	28.58	26.44	27.52
40	38.6	36.96	36.28	33.32	32.16	29.82	27.19	24.30	25.60	23.34	24.37
45	34.1	32.58	31.94	29.31	28.14	26.07	23.89	21.39	22.61	20.43	21.36
50	29.9	28.38	27.84	25.52	24.31	22.67	20.95	18.60	19.76	17.65	18.67
55	25.9	24.41	24.00	21.97	20.89	19.62	18.38	16.27	17.09	14.98	15.88
60	22.1	20.71	20.42	18.66	17.83	16.95	16.10	14.22	14.69	12.78	13.60
65	18.5	17.37	17.13	15.67	15.12	14.54	13.95	12.24	12.41	10.82	11.38
70	15.3	14.32	14.05	13.02	12.46	12.29	11.82	10.38	10.25	9.22	9.62
75	12.4	11.56	11.37	10.85	10.10	10.15	9.81	8.62	8.37	7.55	7.90
80	9.8	9.05	8.95	8.87	7.66	8.15	8.02	6.90	6.58	6.05	6.48
85	7.8	6.99	7.09	7.00	5.44	6.15	6.41	5.48	5.22	5.09	5.10
90	6.0	5.24	5.47	5.41	3.52	4.13	4.96	4.20	4.07	4.50	4.01
95	4.5	3.97	4.30	4.58	2.43	2.74	3.71	3.09	3.18	3.45	3.15
100	3.4	2.97	3.69	4.20	1.91	1.94	2.70	2.04	2.23	2.39	2.49

¹For 1939–41 and 1949–51, data shown are for the entire nonwhite population. During these periods, life tables were not constructed for the black population. See "Technical Notes."

Table 12. Estimated life expectancy at birth in years, by race and sex: Death-registration States, 1900–28, and United States, 1929–2003

[For selected years, life table values shown are estimates; see "Technical Notes." Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Area and year	All races			White			Black ²		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States ¹									
2003	77.5	74.8	80.1	78.0	75.3	80.5	72.7	69.0	76.1
2002	77.3	74.5	79.9	77.7	75.1	80.3	72.3	68.8	75.6
2001	77.2	74.4	79.8	77.7	75.0	80.2	72.2	68.6	75.5
2000	77.0	74.3	79.7	77.6	74.9	80.1	71.9	68.3	75.2
1999	76.7	73.9	79.4	77.3	74.6	79.9	71.4	67.8	74.7
1998	76.7	73.8	79.5	77.3	74.5	80.0	71.3	67.6	74.8
1997	76.5	73.6	79.4	77.2	74.3	79.9	71.1	67.2	74.7
1996	76.1	73.1	79.1	76.8	73.9	79.7	70.2	66.1	74.2
1995	75.8	72.5	78.9	76.5	73.4	79.6	69.6	65.2	73.9
1994	75.7	72.4	79.0	76.5	73.3	79.6	69.5	64.9	73.9
1993	75.5	72.2	78.8	76.3	73.1	79.5	69.2	64.6	73.7
1992	75.8	72.3	79.1	76.5	73.2	79.8	69.6	65.0	73.9
1991	75.5	72.0	78.9	76.3	72.9	79.6	69.3	64.6	73.8
1990	75.4	71.8	78.8	76.1	72.7	79.4	69.1	64.5	73.6
1989	75.1	71.7	78.5	75.9	72.5	79.2	68.8	64.3	73.3
1988	74.9	71.4	78.3	75.6	72.2	78.9	68.9	64.4	73.2
1987	74.9	71.4	78.3	75.6	72.1	78.9	69.1	64.7	73.4
1986	74.7	71.2	78.2	75.4	71.9	78.8	69.1	64.8	73.4
1985	74.7	71.1	78.2	75.3	71.8	78.7	69.3	65.0	73.4
1984	74.7	71.1	78.2	75.3	71.8	78.7	69.5	65.3	73.6
1983	74.6	71.0	78.1	75.2	71.6	78.7	69.4	65.2	73.5
1982	74.5	70.8	78.1	75.1	71.5	78.7	69.4	65.1	73.6
1981	74.1	70.4	77.8	74.8	71.1	78.4	68.9	64.5	73.2
1980	73.7	70.0	77.4	74.4	70.7	78.1	68.1	63.8	72.5
1979	73.9	70.0	77.8	74.6	70.8	78.4	68.5	64.0	72.9
1978	73.5	69.6	77.3	74.1	70.4	78.0	68.1	63.7	72.4
1977	73.3	69.5	77.2	74.0	70.2	77.9	67.7	63.4	72.0
1976	72.9	69.1	76.8	73.6	69.9	77.5	67.2	62.9	71.6
1975	72.6	68.8	76.6	73.4	69.5	77.3	66.8	62.4	71.3
1974	72.0	68.2	75.9	72.8	69.0	76.7	66.0	61.7	70.3
1973	71.4	67.6	75.3	72.2	68.5	76.1	65.0	60.9	69.3
1972 ²	71.2	67.4	75.1	72.0	68.3	75.9	64.7	60.4	69.1
1971	71.1	67.4	75.0	72.0	68.3	75.8	64.6	60.5	68.9
1970	70.8	67.1	74.7	71.7	68.0	75.6	64.1	60.0	68.3
1969	70.5	66.8	74.4	71.4	67.7	75.3	64.5	60.6	68.6
1968	70.2	66.6	74.1	71.1	67.5	75.0	64.1	60.4	67.9
1967	70.5	67.0	74.3	71.4	67.8	75.2	64.9	61.4	68.5
1966	70.2	66.7	73.9	71.1	67.5	74.8	64.2	60.9	67.6
1965	70.2	66.8	73.8	71.1	67.6	74.8	64.3	61.2	67.6
1964	70.2	66.8	73.7	71.0	67.7	74.7	64.2	61.3	67.3
1963 ³	69.9	66.6	73.4	70.8	67.4	74.4	63.7	61.0	66.6
1962 ³	70.1	66.9	73.5	70.9	67.7	74.5	64.2	61.6	66.9
1961	70.2	67.1	73.6	71.0	67.8	74.6	64.5	62.0	67.1
1960	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3
1959	69.9	66.8	73.2	70.7	67.5	74.2	63.9	61.3	66.5
1958	69.6	66.6	72.9	70.5	67.4	73.9	63.4	61.0	65.8
1957	69.5	66.4	72.7	70.3	67.2	73.7	63.0	60.7	65.5
1956	69.7	66.7	72.9	70.5	67.5	73.9	63.6	61.3	66.1
1955	69.6	66.7	72.8	70.5	67.4	73.7	63.7	61.4	66.1
1954	69.6	66.7	72.8	70.5	67.5	73.7	63.4	61.1	65.9
1953	68.8	66.0	72.0	69.7	66.8	73.0	62.0	59.7	64.5
1952	68.6	65.8	71.6	69.5	66.6	72.6	61.4	59.1	63.8
1951	68.4	65.6	71.4	69.3	66.5	72.4	61.2	59.2	63.4
1950	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9
1949	68.0	65.2	70.7	68.8	66.2	71.9	60.6	58.9	62.7
1948	67.2	64.6	69.9	68.0	65.5	71.0	60.0	58.1	62.5
1947	66.8	64.4	69.7	67.6	65.2	70.5	59.7	57.9	61.9
1946	66.7	64.4	69.4	67.5	65.1	70.3	59.1	57.5	61.0
1945	65.9	63.6	67.9	66.8	64.4	69.5	57.7	56.1	59.6
1944	65.2	63.6	66.8	66.2	64.5	68.4	56.6	55.8	57.7
1943	63.3	62.4	64.4	64.2	63.2	65.7	55.6	55.4	56.1
1942	66.2	64.7	67.9	67.3	65.9	69.4	56.6	55.4	58.2

See footnotes at end of table.

Table 12. Estimated life expectancy at birth in years, by race and sex: Death-registration States, 1900–28, and United States, 1929–2003—Con.

[For selected years, life table values shown are estimates; see "Technical Notes." Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes"]

Area and year	All races			White			Black ²		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States ¹ —Con.									
1941	64.8	63.1	66.8	66.2	64.4	68.5	53.8	52.5	55.3
1940	62.9	60.8	65.2	64.2	62.1	66.6	53.1	51.5	54.9
1939	63.7	62.1	65.4	64.9	63.3	66.6	54.5	53.2	56.0
1938	63.5	61.9	65.3	65.0	63.2	66.8	52.9	51.7	54.3
1937	60.0	58.0	62.4	61.4	59.3	63.8	50.3	48.3	52.5
1936	58.5	56.6	60.6	59.8	58.0	61.9	49.0	47.0	51.4
1935	61.7	59.9	63.9	62.9	61.0	65.0	53.1	51.3	55.2
1934	61.1	59.3	63.3	62.4	60.5	64.6	51.8	50.2	53.7
1933	63.3	61.7	65.1	64.3	62.7	66.3	54.7	53.5	56.0
1932	62.1	61.0	63.5	63.2	62.0	64.5	53.7	52.8	54.6
1931	61.1	59.4	63.1	62.6	60.8	64.7	50.4	49.5	51.5
1930	59.7	58.1	61.6	61.4	59.7	63.5	48.1	47.3	49.2
1929	57.1	55.8	58.7	58.6	57.2	60.3	46.7	45.7	47.8
Death-registration States									
1928	56.8	55.6	58.3	58.4	57.0	60.0	46.3	45.6	47.0
1927	60.4	59.0	62.1	62.0	60.5	63.9	48.2	47.6	48.9
1926	56.7	55.5	58.0	58.2	57.0	59.6	44.6	43.7	45.6
1925	59.0	57.6	60.6	60.7	59.3	62.4	45.7	44.9	46.7
1924	59.7	58.1	61.5	61.4	59.8	63.4	46.6	45.5	47.8
1923	57.2	56.1	58.5	58.3	57.1	59.6	48.3	47.7	48.9
1922	59.6	58.4	61.0	60.4	59.1	61.9	52.4	51.8	53.0
1921	60.8	60.0	61.8	61.8	60.8	62.9	51.5	51.6	51.3
1920	54.1	53.6	54.6	54.9	54.4	55.6	45.3	45.5	45.2
1919	54.7	53.5	56.0	55.8	54.5	57.4	44.5	44.5	44.4
1918	39.1	36.6	42.2	39.8	37.1	43.2	31.1	29.9	32.5
1917	50.9	48.4	54.0	52.0	49.3	55.3	38.8	37.0	40.8
1916	51.7	49.6	54.3	52.5	50.2	55.2	41.3	39.6	43.1
1915	54.5	52.5	56.8	55.1	53.1	57.5	38.9	37.5	40.5
1914	54.2	52.0	56.8	54.9	52.7	57.5	38.9	37.1	40.8
1913	52.5	50.3	55.0	53.0	50.8	55.7	38.4	36.7	40.3
1912	53.5	51.5	55.9	53.9	51.9	56.2	37.9	35.9	40.0
1911	52.6	50.9	54.4	53.0	51.3	54.9	36.4	34.6	38.2
1910	50.0	48.4	51.8	50.3	48.6	52.0	35.6	33.8	37.5
1909	52.1	50.5	53.8	52.5	50.9	54.2	35.7	34.2	37.3
1908	51.1	49.5	52.8	51.5	49.9	53.3	34.9	33.8	36.0
1907	47.6	45.6	49.9	48.1	46.0	50.4	32.5	31.1	34.0
1906	48.7	46.9	50.8	49.3	47.3	51.4	32.9	31.8	33.9
1905	48.7	47.3	50.2	49.1	47.6	50.6	31.3	29.6	33.1
1904	47.6	46.2	49.1	48.0	46.6	49.5	30.8	29.1	32.7
1903	50.5	49.1	52.0	50.9	49.5	52.5	33.1	31.7	34.6
1902	51.5	49.8	53.4	51.9	50.2	53.8	34.6	32.9	36.4
1901	49.1	47.6	50.6	49.4	48.0	51.0	33.7	32.2	35.3
1900	47.3	46.3	48.3	47.6	46.6	48.7	33.0	32.5	33.5

¹Alaska included in 1959 and Hawaii in 1960.

²Deaths based on a 50-percent sample.

³Figures by race exclude data for residents of New Jersey; see "Technical Notes."

⁴Prior to 1970, data for the black population are not available. Data shown for 1900–1969 are for the nonwhite population. See "Technical Notes."

Technical Notes

The life table program—Three series of complete life tables are prepared by the National Center for Health Statistics (NCHS) for the U.S. population—decennial, annual preliminary, and annual final. The U.S. decennial life tables are based on decennial census data and deaths for a 3-year period around the census year. Preliminary life tables are based on a substantial sample (approximately 90 percent) of death records. Estimates of life expectancy from the preliminary series are published annually. The annual final life tables (referred to in this section as annual life tables) are based on a complete count of all reported deaths.

Available since 1945, the annual life tables are based on deaths occurring during the calendar year and on midyear postcensal population estimates provided by the U.S. Census Bureau. From 1945 to 1996, the annual life tables were abridged life tables and were constructed by reference to a standard table (8). Beginning with 1997 mortality data, complete life tables are constructed using a new methodology (9,10). Also for 1997, life expectancy and other life table values were shown for ages 85 to 100 years for the first time as part of the annual U.S. life tables. Previously, the annual life tables were closed at age 85 years. Extension of the oldest age interval was implemented by NCHS for several reasons: 1) survival in the United States is such that approximately one-third of the population survives beyond age 85, 2) improvements have occurred in age reporting at older ages, and 3) high quality old-age mortality data are available from the Medicare program.

Geographic coverage—The geographic areas covered in life tables before 1929–31 were limited to the death-registration areas. Life tables for 1900–1902 and 1909–11 were constructed using mortality data from the 1900 death-registration States (10 States and the District of Columbia) and for 1919–21 from the 1920 death-registration States (34 States and the District of Columbia). The tables for 1929–31 through 1958 cover the coterminous United States. Decennial life table values for the 3-year period 1959–61 were derived from data that include both Alaska and Hawaii for each year ([Tables 10](#) and [11](#)). Data for each year shown in [Table 12](#) include Alaska beginning in 1959 and Hawaii beginning in 1960. However, it is not believed that the inclusion of these two States materially affects life table values.

Revised life table values—Life table values for 1960–69, 1970–79, and 1980–89 were constructed using the U.S. decennial life tables for 1959–61, 1969–71, and 1979–81, respectively, as the standard tables. The life table values for years prior to 1989 appearing in this publication are based on revised intercensal estimates of the populations for those years. As a result, the life table values for these years may differ from the life table values for those years published in *Vital Statistics of the United States* for 1989 and earlier years. Life table values for 1991–99 are based on postcensal population estimates of the population enumerated in the 1990 decennial census while life table values for 2000–2003 are based on population estimates of the population enumerated in the 2000 decennial census. As a result, life expectancy values across the 1990s are not comparable to those estimated for 2000–2003. A comparison of life expectancy values for 2000 estimated alternately with 1990-based postcensal estimates of the 2000 population and population estimates based on the 2000 census revealed that life expectancy values estimated using the 2000 census population estimates were slightly higher throughout the entire age range (17).

Revised life table values for 1991–99 using the census 2000-based new intercensal population estimates will be estimated by NCHS in the upcoming year.

New Jersey data, 1962–64—The life tables for 1962 and 1963 for the six population groups involving race do not include data from New Jersey, which omitted the item on race from its certificates of live birth, death, and fetal death in use at the beginning of 1962. The item was restored during the latter part of 1962. However, the certificate revision without this item was used for most of 1962 as well as for 1963. For computing vital rates, populations by age, race, and sex (excluding New Jersey) were estimated to obtain comparable denominators. Approximately 7 percent of the New Jersey death records for 1964 did not contain the race designation. When the records were being electronically processed for this State, the “race not stated” deaths were proportionally allocated to white or to black.

Nonresidents—Beginning in 1970, the deaths of nonresidents of the United States have been excluded from the life table statistics.

Estimation of life table functions—For some years, it was necessary to estimate life table functions for some race-sex groups. In [Tables 10](#) and [11](#), figures for the black population during the periods 1949–51 and 1959–61 were estimated using figures for the nonwhite population. Life table functions were also missing in [Tables 10](#) and [11](#) for race-sex groups for the periods from 1900–1902 to 1939–41. Figures were missing for the following groups:

Years	Race and sex
1900–1902	Total white, total black
1909–11	Total white, total black
1919–21	Total, male, female, total white, total black
1929–31	Total, male, female, total white, total black

These figures were estimated by weighted averages using population distributions as the weights. For example, life expectancy at age 20 years for the total black population was estimated by a weighted average of black male and black female life expectancies at age 20 years, using as weights the population distribution by sex of the black population aged 20 years.

Annual life tables were initiated in 1945 for white males, white females, all other males, and all other females. The figures in [Table 12](#) by race and sex for the following years were estimated using a procedure other than the abridged life table methodology (18).

Years	Race and sex
1900–45	Total
1900–47	Male
1900–47	Female
1900–50	White
1900–44	White male
1900–44	White female

Annual life table functions were not calculated for the black population prior to 1970. In [Table 12](#), life expectancy for the black population for years prior to 1970 are estimated using figures for the total nonwhite population.

Population bases for computing life tables—Populations used for computing life tables shown in this report represent the population residing in the United States, enumerated as of April 1 for census years

and estimated as of July 1 for all other years. Life tables for the United States for 2003 are estimated using postcensal estimates published in 2003 based on the 2000 census estimated as of July 1, 2003. Life tables for 2000 shown in this report have been recomputed, based on revised populations that are consistent with the 2000 census. These estimates were produced under a collaborative arrangement with the U.S. Census Bureau and are based on the 2000 census counts by age, race, and sex, modified to be consistent with U.S. Office of Management and Budget race categories as of 1977 and historical categories for death data (5). The modified procedures are described in detail elsewhere (7). Life tables previously published in annual reports of final data for 1991 to 1999 were based on postcensal population estimates derived from the 1990 census. The 1991–99 life tables will be re-estimated using 2000 census-based intercensal population estimates.

Medicare data—Death rates at the oldest ages based on Medicare data are known to be more accurate than those based on vital statistics and census data. Consequently, q_x values calculated for ages 85 to 99 years are based on Medicare data collected by the Centers for Medicare and Medicaid Services. Medicare data were limited to the group insured for hospital insurance as age reporting is considered best among this group (10,15,16). For the 2003 life tables, pooled 1999–2001 Medicare data were used as 2003 data were not available in time for the preparation of this report.

Methodology

A more detailed treatment of the methodology used to calculate these life tables is contained in a separate report (9). Calculation of the complete life table is derived from the probability of death (q_x), which depends on the number of deaths (D_x) and the midyear population (P_x) for each single year of age (x) observed during the calendar year of interest.

Adjustment for deaths for which age was not reported—An adjustment must be made to account for the small proportion of deaths each year for which age is not reported. The number of deaths in each age category is adjusted proportionally to account for those with not-stated ages. The following factor is used to make the adjustment. This factor (F) is calculated for each race-sex group for which life tables are constructed.

$$F = \frac{D}{D^a} \quad [1]$$

where D is the total number of deaths and D^a is the total number of deaths for which age is stated. F is then applied by multiplying it times the number of deaths in each age group. **Table I** shows values for F by race and sex used to adjust the 2003 mortality data.

Calculation of q_0 — q_0 is calculated by using a birth cohort method employing a separation factor (f) defined as the proportion of infant deaths in year t occurring to infants born in the previous year ($t-1$). f can be calculated by categorizing infant deaths by date of birth. The probability of death in the first year is calculated as

$$q_0 = \frac{D_0(1-f)}{B^t} + \frac{D_0 f}{B^{t-1}} \quad [2]$$

where D_0 is the number of infant deaths adjusted for not-reported age, and B^t and B^{t-1} are the numbers of births in years t and $t-1$, respectively. **Table II** shows separation factors and numbers of births by race and sex for 2002–03.

Table I. Values for F used to adjust for not-stated age based on 2003 mortality data

Race and sex	Total deaths	Total deaths for which age was not stated	F
Total	2,448,288	342	1.00013971
Male	1,201,964	271	1.00022552
Female	1,246,324	71	1.00005697
White	2,103,714	292	1.00013882
Male	1,025,650	228	1.00022235
Female	1,078,064	64	1.00005937
Black	291,300	40	1.00013733
Male	148,022	35	1.00023651
Female	143,278	5	1.00003490

Calculation of q_x for ages 1–84— q_x is calculated assuming that I_x (number of survivors at exact age x in the life table population) declines linearly between x and $x+1$ (i.e., that deaths between exact age x and $x+1$ occur on average at age $x+\frac{1}{2}$). This simplification is generally considered acceptable when age intervals are 1 year of age in length (1). Under this assumption, $I_x = L_x + \frac{1}{2}d_x$ where L_x is the average life table population at risk of dying between ages x and $x+1$ and d_x is the number of deaths occurring between age x and $x+1$. q_x is then

$$q_x = \frac{d_x}{I_x} = \frac{d_x}{L_x + \frac{1}{2}d_x}$$

One can make the same assumption for the observed population (i.e., that the observed population aged x at risk of dying at the beginning of the year (N_x) declines linearly between ages x and $x+1$). Under this assumption, $N_x = P_x + \frac{1}{2}D_x$ where P_x is the midyear population or average observed population at risk of dying between ages x and $x+1$ and D_x is the observed number of deaths occurring between ages x and $x+1$. q_x is calculated as

$$q_x = \frac{D_x}{N_x} = \frac{D_x}{P_x + \frac{1}{2}D_x} \quad [3]$$

For $x = 1$ to 84, D_x is the observed number of deaths adjusted for not-stated age and P_x is the observed population at risk of dying between ages x and $x+1$.

Use of Medicare data at ages 85 to 99 years—There is ample evidence that the rate of increase in q_x declines above age 85 (9,16,19–21). The change in q_x for ages over 85 years can be expressed using the formula

$$q_x = q_{x-1} \cdot e^k \quad [4]$$

where k_x denotes the age-specific rate of mortality change with age (16,20). Solving for k_x gives

$$k_x = \ln(q_x) - \ln(q_{x-1}) \quad [5]$$

Values for k_x are then obtained from the Medicare data. **Table III** shows values for k by age, race, and sex based on pooled 1991–2001 Medicare data. These data show clearly a declining rate of increase in q_x over age 85 years. These k_x values are then used to obtain q_x values for ages 85 to 99 years using equation 4. This method allows for flexibility in cases where the Medicare data are not

Table II. Births in 2002 and 2003, deaths in 2003 of infants born in 2002 and 2003, and separation factors by race and sex: United States

	Total			White			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Births									
2002	4,021,726	2,057,979	1,963,747	3,174,760	1,626,303	1,548,457	593,691	301,498	292,193
2003	4,091,063	2,094,128	1,996,935	3,227,755	1,653,135	1,574,620	599,414	304,990	294,424
Deaths in 2003 of infants born in									
2002	3,270	1,896	1,374	2,152	1,269	883	939	526	413
2003	24,755	14,006	10,749	16,288	9,231	7,057	7,463	4,214	3,249
Separation factor (f)	0.117	0.119	0.113	0.117	0.121	0.111	0.112	0.111	0.113

Table III. k values by age, race, and sex based on insured Medicare data: United States, 1999–2001

Age	Total			White			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
84–85	0.0898549	0.0864076	0.0973817	0.0919802	0.0886566	0.0996705	0.0694068	0.0661179	0.0762840
85–86	0.0890116	0.0854434	0.0965147	0.0910896	0.0876323	0.0987562	0.0688880	0.0655157	0.0757369
86–87	0.0880989	0.0844055	0.0955687	0.0901240	0.0865277	0.0977568	0.0683365	0.0648788	0.0751511
87–88	0.0871128	0.0832905	0.0945386	0.0890791	0.0853392	0.0966665	0.0677509	0.0642060	0.0745247
88–89	0.0860496	0.0820954	0.0934192	0.0879507	0.0840634	0.0954797	0.0671298	0.0634964	0.0738556
89–90	0.0849057	0.0808174	0.0922055	0.0867350	0.0826974	0.0941908	0.0664719	0.0627488	0.0731420
90–91	0.0836777	0.0794545	0.0908927	0.0854283	0.0812389	0.0927947	0.0657759	0.0619625	0.0723820
91–92	0.0823627	0.0780047	0.0894765	0.0840275	0.0796860	0.0912868	0.0650407	0.0611368	0.0715737
92–93	0.0809582	0.0764671	0.0879531	0.0825300	0.0780378	0.0896628	0.0642651	0.0602711	0.0707155
93–94	0.0794625	0.0748414	0.0863193	0.0809339	0.0762943	0.0879197	0.0634483	0.0593651	0.0698059
94–95	0.0778742	0.0731281	0.0845728	0.0792383	0.0744563	0.0860552	0.0625893	0.0584185	0.0688436
95–96	0.0761930	0.0713287	0.0827124	0.0774428	0.0725258	0.0840682	0.0616877	0.0574315	0.0678274
96–97	0.0744195	0.0694455	0.0807379	0.0755487	0.0705060	0.0819591	0.0607430	0.0564044	0.0667565
97–98	0.0725553	0.0674822	0.0786508	0.0735578	0.0684012	0.0797298	0.0597550	0.0553376	0.0656304
98–99	0.0706028	0.0654433	0.0764537	0.0714736	0.0662171	0.0773840	0.0587237	0.0542321	0.0644489

available in a timely fashion. In these cases, Medicare data for the previous year can be used to calculate k_x values. Finally, ∞q_{100} is set equal to 1.0 because all will die at some point in this open-ended age interval. Once q_x is obtained for each single year of age, the other life table functions may be easily calculated.

Survivor function (I_x)—The life table radix, I_0 , is set at 100,000. For ages greater than 0, the number of survivors remaining at exact age x is calculated as

$$I_x = I_{x-1} (1 - q_{x-1}) \quad [6]$$

Decrement function (d_x)—The number of deaths occurring between age x and $x + 1$ is calculated from the survivor function.

$$d_x = I_x - I_{x+1} = I_x q_x \quad [7]$$

Note that $\infty d_{100} = \infty I_{100}$ since $\infty q_{100} = 1.0$.

Person-years lived (L_x)—Person-years lived for ages 1 to 99 is calculated assuming that the survivor function declines linearly between age x and $x + 1$. This gives the formula

$$L_x = \frac{1}{2} (I_x + I_{x+1}) = I_x - \frac{1}{2} d_x \quad [8]$$

For $x = 0$, the separation factor f is used to calculate L_0 .

$$L_0 = f I_0 + (1 - f) I_1$$

∞L_{100} is calculated by surviving the life table cohort from age 100 using equations 4, 5, and 6 until L_x at these ages is essentially zero (somewhere between ages 110 and 120). q_x for these ages can be extrapolated from the Medicare data using equation 4. However, k_x values must be estimated for these ages. k_x can be modeled as a linear function of age

$$k_x = k_{85} + (x - 85)s \quad [9]$$

where s is the slope of the change in k_x by age and k_{85} is calculated as $[\ln(q_{88}/q_{81})]/7$ in order to minimize the effects of random fluctuations (16,21). s can be obtained by treating equation 9 as a linear regression model. Calculated values for s are shown in Table IV. The predicted values for k_x are then used to calculate q_x above age 100 using equation 4. The corresponding L_x values for ages 100 years and over are then summed to give ∞L_{100} .

Person-years lived at and above age x (T_x)— T_x is calculated by summing L_x values at and above age x .

$$T_x = \sum_{t=0}^{\infty} L_{x+t} \quad [10]$$

Life expectancy at age x (e_x)—Life expectancy at exact age x is calculated as

$$e_x = \frac{T_x}{I_x} \quad [11]$$

Table IV. Slope of the change in k values (s) by race and sex

Race and sex	s
Total, both sexes	-0.001370
Male	-0.001496
Female	-0.001487
White, both sexes	-0.001460
Male	-0.001602
Female	-0.001584
Black, both sexes	-0.000761
Male	-0.000848
Female	-0.008415

Abridging the complete life table

An abridged or collapsed version of the complete life table can be easily calculated in which life table functions are shown for 5-year rather than single-year age intervals. It is often desirable to summarize the life table and save space when publishing life table data by single years of age. The abridgement of the complete life table is simplified by an important property of three of the six life table functions. The I_x , T_x , and e_x functions describe exact age x (i.e., the beginning of the age interval x to $x+n$ (n denotes the length of the age interval for 5-year age intervals $n=5$)). Life expectancy at age 20 (e_{20}), for example, has the same value regardless of whether the age

interval is 20–21 years or 20–25 years. Thus, the values I_x , T_x , and e_x can be extracted at 5-year intervals from the complete life table and placed into the abridged life table (compare I_x , T_x , and e_x in [Table V](#) with the same functions in [Table 1](#)). It is also illustrative to compare values for e_x and I_x in [Tables A](#) and [B](#) with their corresponding values presented in [Tables 1–9](#). The q_x , d_x , and L_x functions, in contrast, describe the age interval x to $x+n$. In fact, for abridged life tables, the notation for these functions is different (${}_nq_x$, ${}_nd_x$, and ${}_nL_x$). Thus, ${}_5q_{20}$ is the probability of dying between ages 20 and 25 years and will obviously be somewhat larger than q_{20} , the probability of dying between ages 20 and 21 years. Taking this into account, ${}_nq_x$, ${}_nd_x$, and ${}_nL_x$ must be recalculated in the abridged life table. It is simplest to begin with ${}_nd_x$. The calculations are made for all but the final age interval as follows:

$${}_nd_x = I_x - I_{x+n}$$

$${}_nq_x = \frac{{}_nd_x}{I_x}$$

$${}_nL_x = T_x - T_{x+n}$$

Note that for the open-ended interval, ages 100 years and over: ${}_nq_{100} = I_{100}$, ${}_nq_{100} = 1.0$, and ${}_nL_{100} = T_{100}$. [Table V](#) shows each of the life table functions for the 2003 U.S. total population abridged from [Table 1](#).

Table V. Abridged life table for the total population: United States, 2003

Age	${}_nq_x$	I_x	${}_nd_x$	${}_nL_x$	T_x	Total number of person-years lived above age x		Expectation of life at age x
						Probability of dying between ages x to $x+n$	Number surviving to age x	
0–1	0.006865	100,000	687	99,394	7,748,865	77.5		
1–5	0.001252	99,313	124	396,962	7,649,471	77.0		
5–10	0.000734	99,189	73	495,756	7,252,510	73.1		
10–15	0.000956	99,116	95	495,369	6,756,754	68.2		
15–20	0.003317	99,022	328	494,435	6,261,385	63.2		
20–25	0.004806	98,693	474	492,277	5,766,950	58.4		
25–30	0.004751	98,219	467	489,938	5,274,672	53.7		
30–35	0.005541	97,752	542	487,457	4,784,734	48.9		
35–40	0.007886	97,210	767	484,249	4,297,277	44.2		
40–45	0.011992	96,444	1,157	479,513	3,813,027	39.5		
45–50	0.017862	95,287	1,702	472,435	3,333,515	35.0		
50–55	0.025653	93,585	2,401	462,242	2,861,080	30.6		
55–60	0.037558	91,185	3,425	447,912	2,398,838	26.3		
60–65	0.058021	87,760	5,092	426,797	1,950,925	22.2		
65–70	0.086287	82,668	7,133	396,471	1,524,128	18.4		
70–75	0.130072	75,535	9,825	354,252	1,127,657	14.9		
75–80	0.197364	65,710	12,969	297,321	773,405	11.8		
80–85	0.298685	52,741	15,753	224,973	476,084	9.0		
85–90	0.423047	36,988	15,648	145,292	251,112	6.8		
90–95	0.579341	21,340	12,363	73,760	105,820	5.0		
95–100	0.736793	8,977	6,614	26,017	32,060	3.6		
100+	1.000000	2,363	2,363	6,044	6,044	2.6		

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